



Radial Cement Bond  
Variable Density Log  
W/Gamma Ray/CCL/Temp

Company ANTERO  
Well Margery Lemon 2H  
Field RABBIT EARS  
County TYLER 4709502704  
State WEST VIRGINIA Country USA

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Well Margery Lemon 2H  
Field RABBIT EARS  
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Location: API #: 47-095-02740-0000  
Other Services  
SEC TWP RGE Elevation 25'  
Permanent Datum GL  
Log Measured From KB  
Drilling Measured From KB  
Elevation K.B. N/A  
D.F. N/A  
G.L. N/A

Date	08-Jan-2021	
Run Number	ONE	
Depth Driller	19,444'	
Depth Logger	7,776'	
Bottom Logged Interval	7,797'	
Top Log Interval	SURFACE	
Open Hole Size	8.50"	
Type Fluid	FRESH WATER	
Density / Viscosity	8.4#	
Max. Recorded Temp.	151 Deg. F.	
Estimated Cement Top	3,758'	
Time Well Ready	10:38	
Time Logger on Bottom	11:15	
Equipment Number	TK-104 / P1.G2	
Location	CHARLEROI, PA	
Recorded By	Matt McNally	
Witnessed By	Ryan Rivera	
	Michael Koch	
Run Number	Borehole Record	
Bit	From	To
	Size	Weight
	From	To
	Size	Weight
	From	To
Casing Record	Size	Wgt/Ft
Surface String		Top
Prot. String		Bottom
Production String	5 1/2"	20# SURFACE
Liner		19,444'

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All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions set out in our current Price Schedule.

Comments

RECEIVED  
Office of Oil and Gas

LOG CORRELATED TO MARKER JOINT @ 6,514' - ~~6,520'~~ 8 2023  
Depth Correction -14'

WV Department of  
Environmental Protection

100%FREE PIPE=71.9mv  
100%BOND=2.2mv

Thank You for Choosing Nine Energy Service.Charleroi, PA



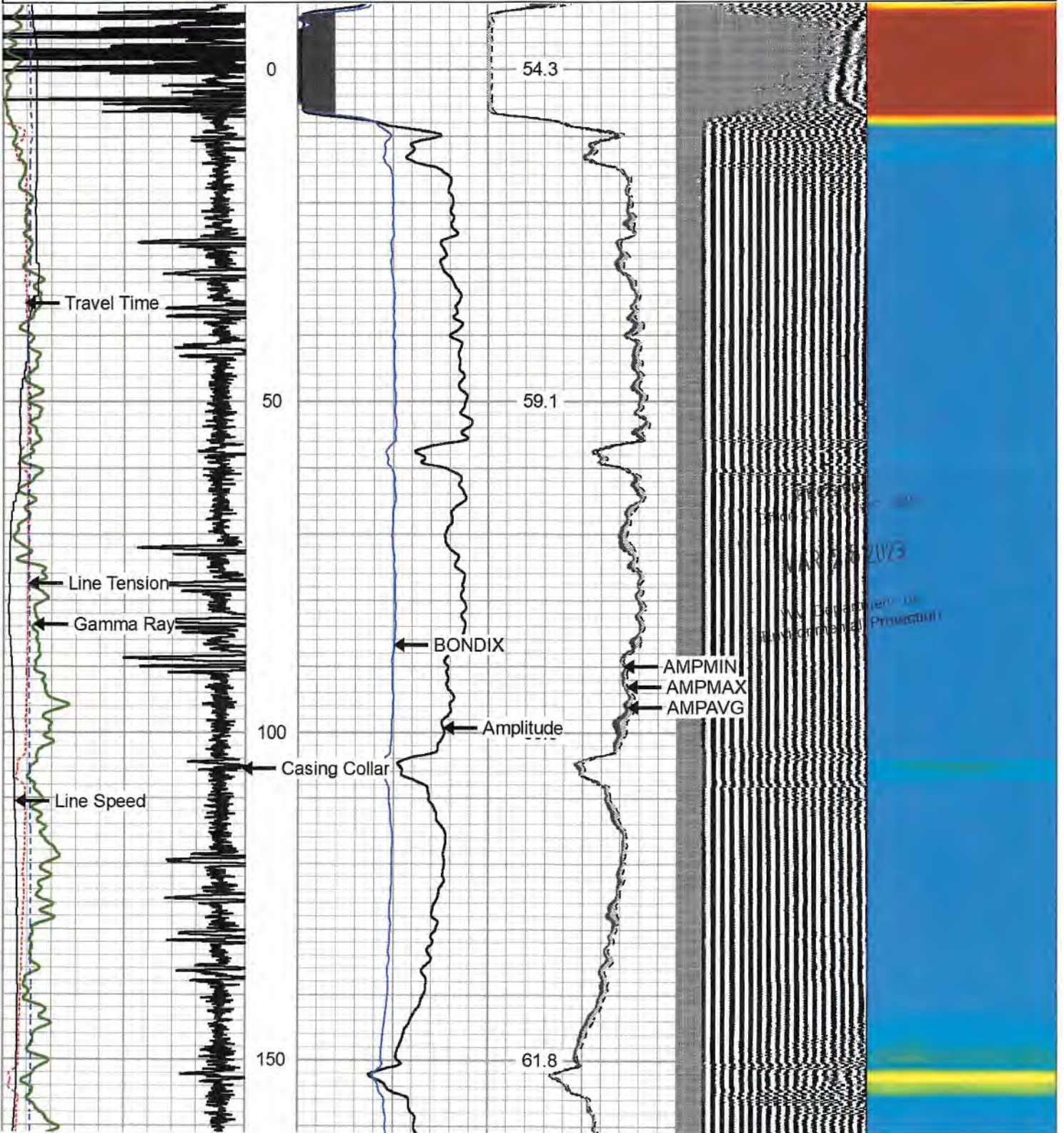
Main Pass 1,500 PSI

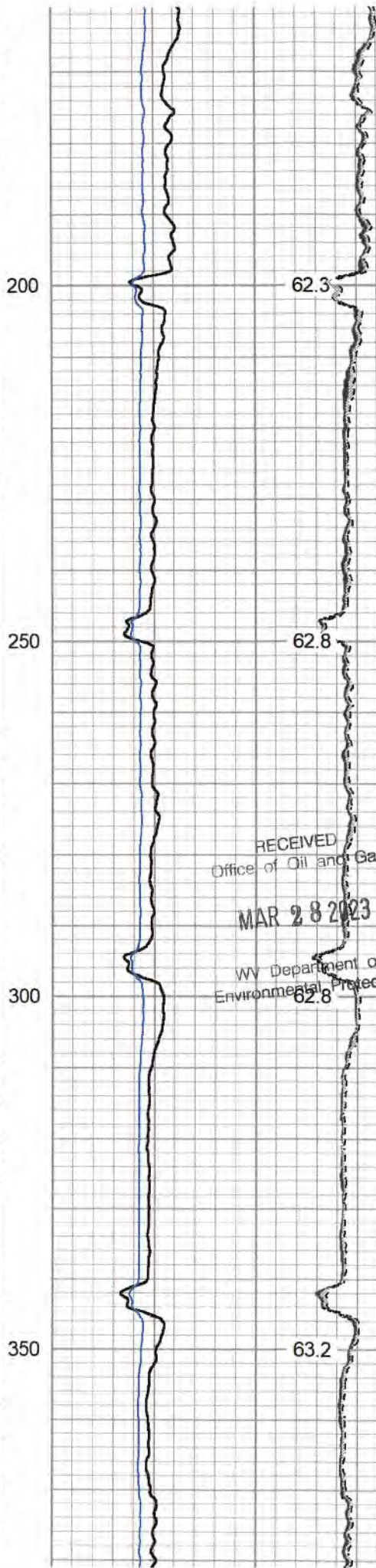
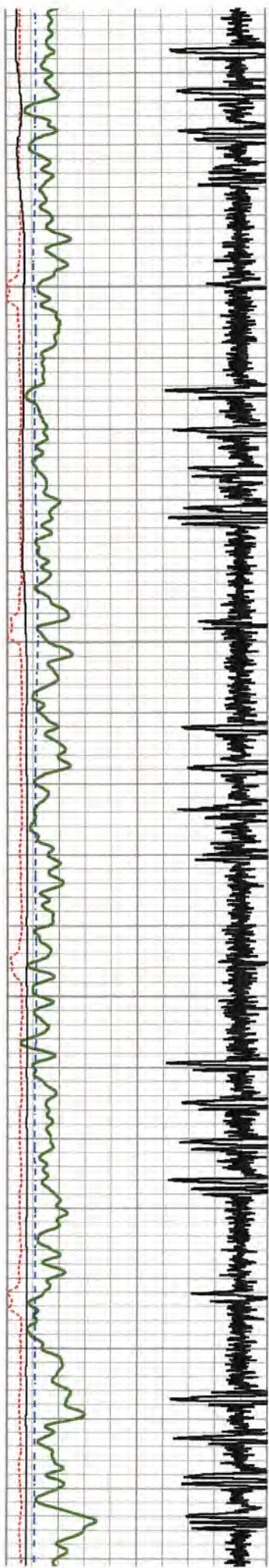
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 Dataset Pathname rabbit\_ears/Lemon2H/run1/pass9  
 Presentation Format rcbl-bond index for antero 1020  
 Dataset Creation Fri Jan 08 11:24:53 2021  
 Charted by Depth in Feet scaled 1:240

270	Travel Time (usec)	160
9	Casing Collar	-1
0	Gamma Ray (GAPI)	150
Line Speed		
-100	(ft/min)	100
0	Line Tension (lb)	2000

0	Amplitude (mV)	100
1	BONDIX	0
0	AMPMIN	150
0	AMPMAX	150
0	AMPAVG	150
TEMP		
(degF)		

Variable Density	1	Cement Map	8
200 (usec)	1200		





62.3

62.8

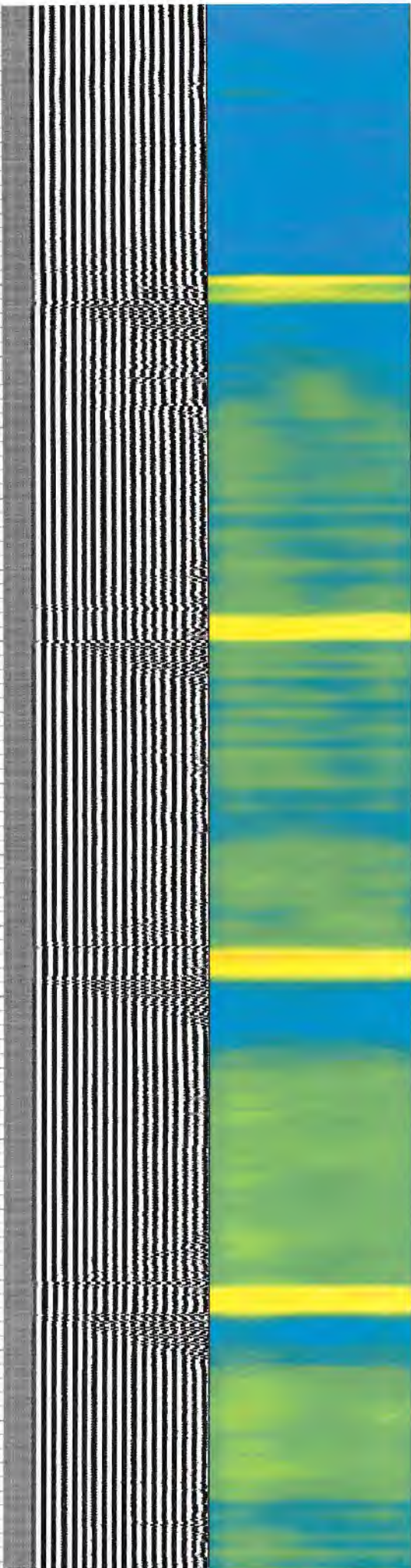
RECEIVED  
Office of Oil and Gas

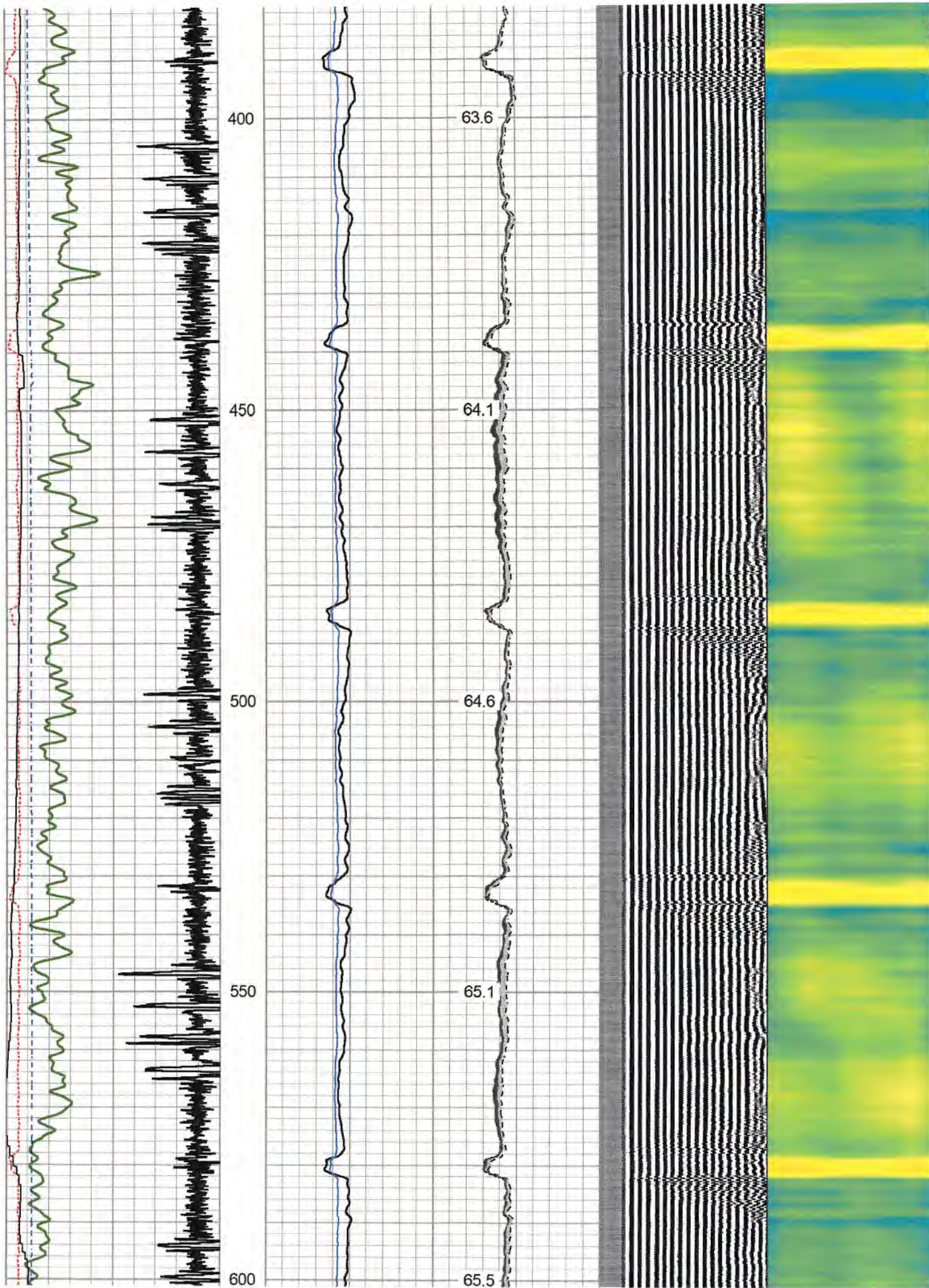
MAR 28 2023

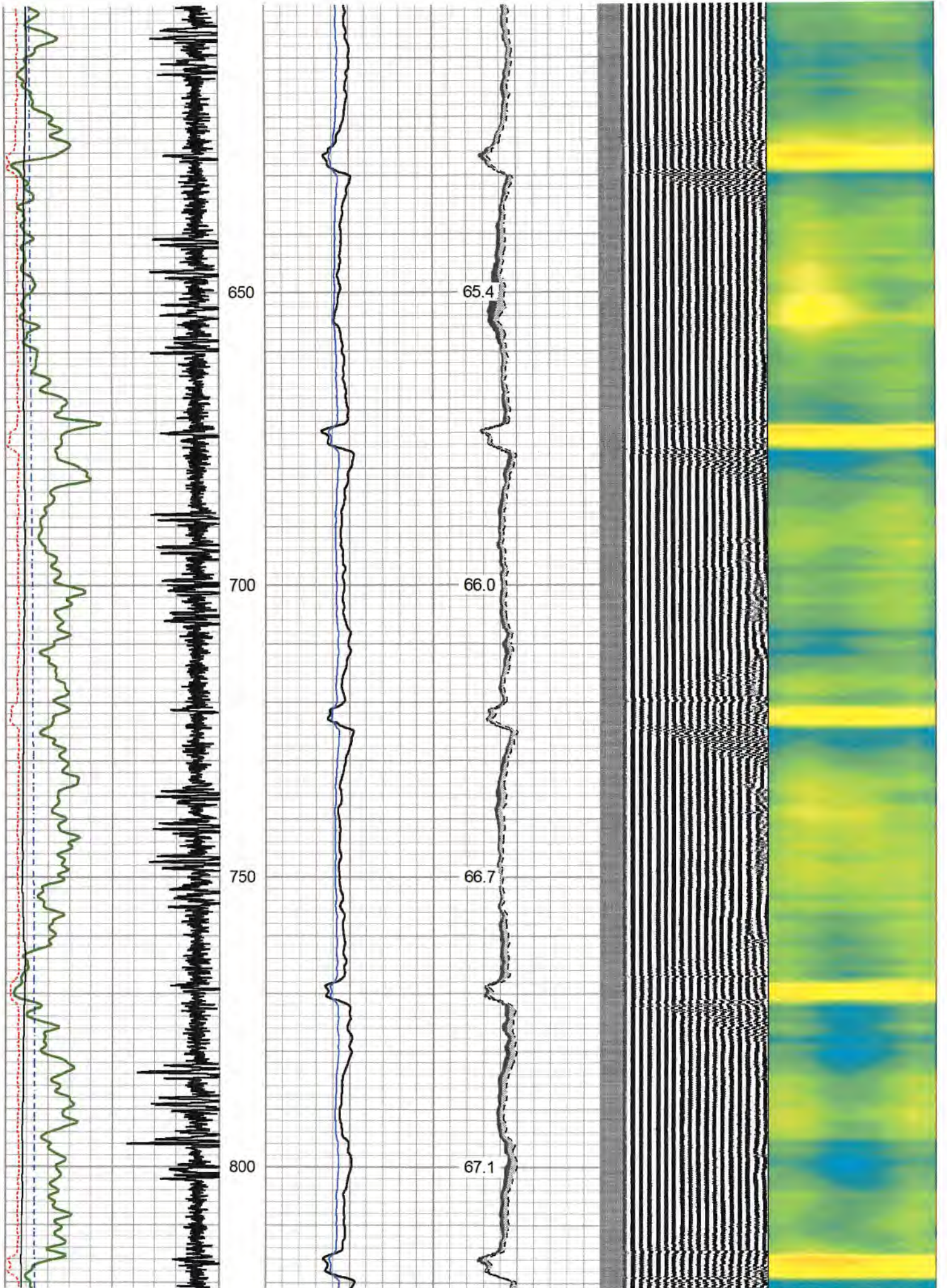
WV Department of  
Environmental Protection

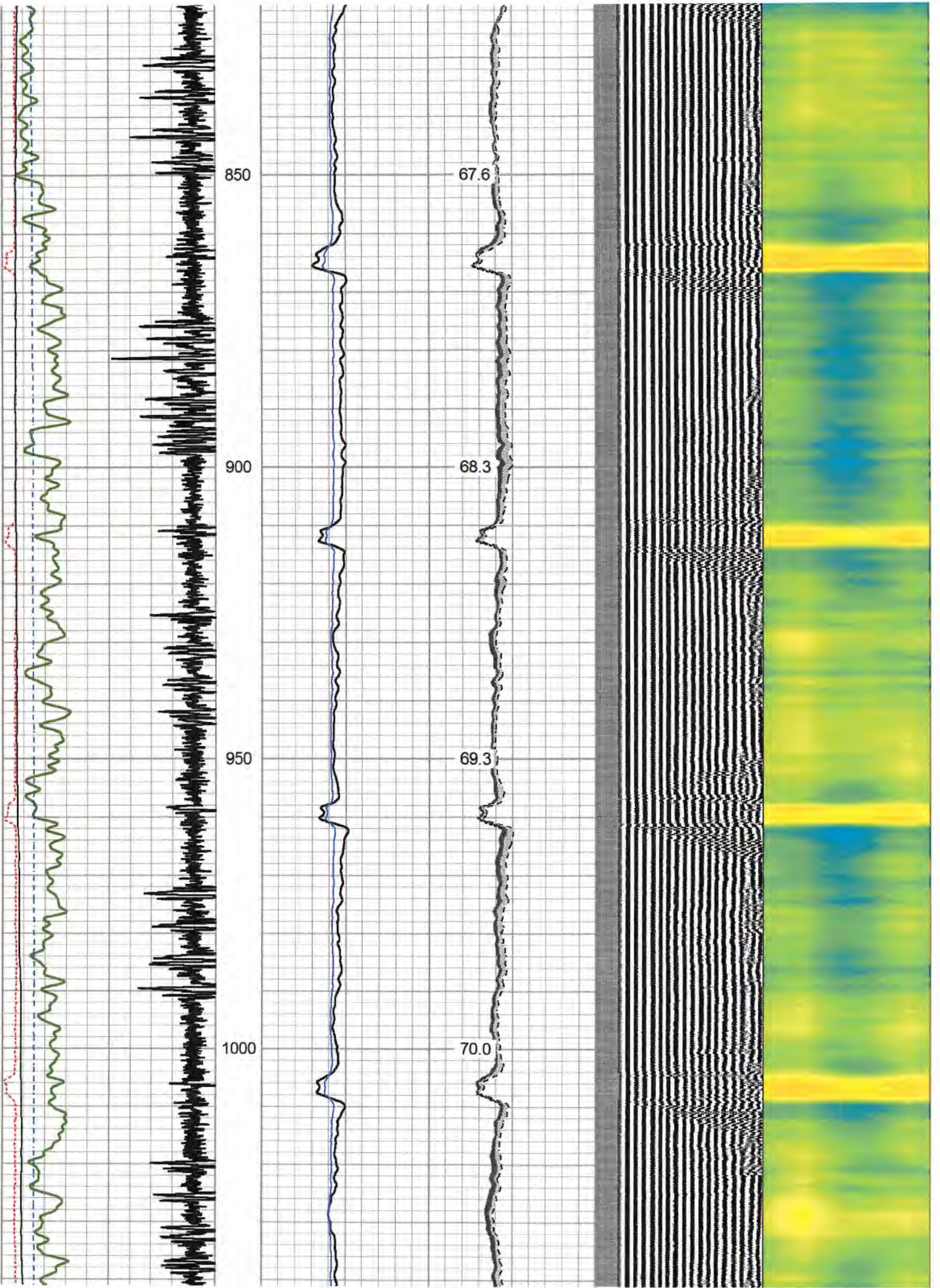
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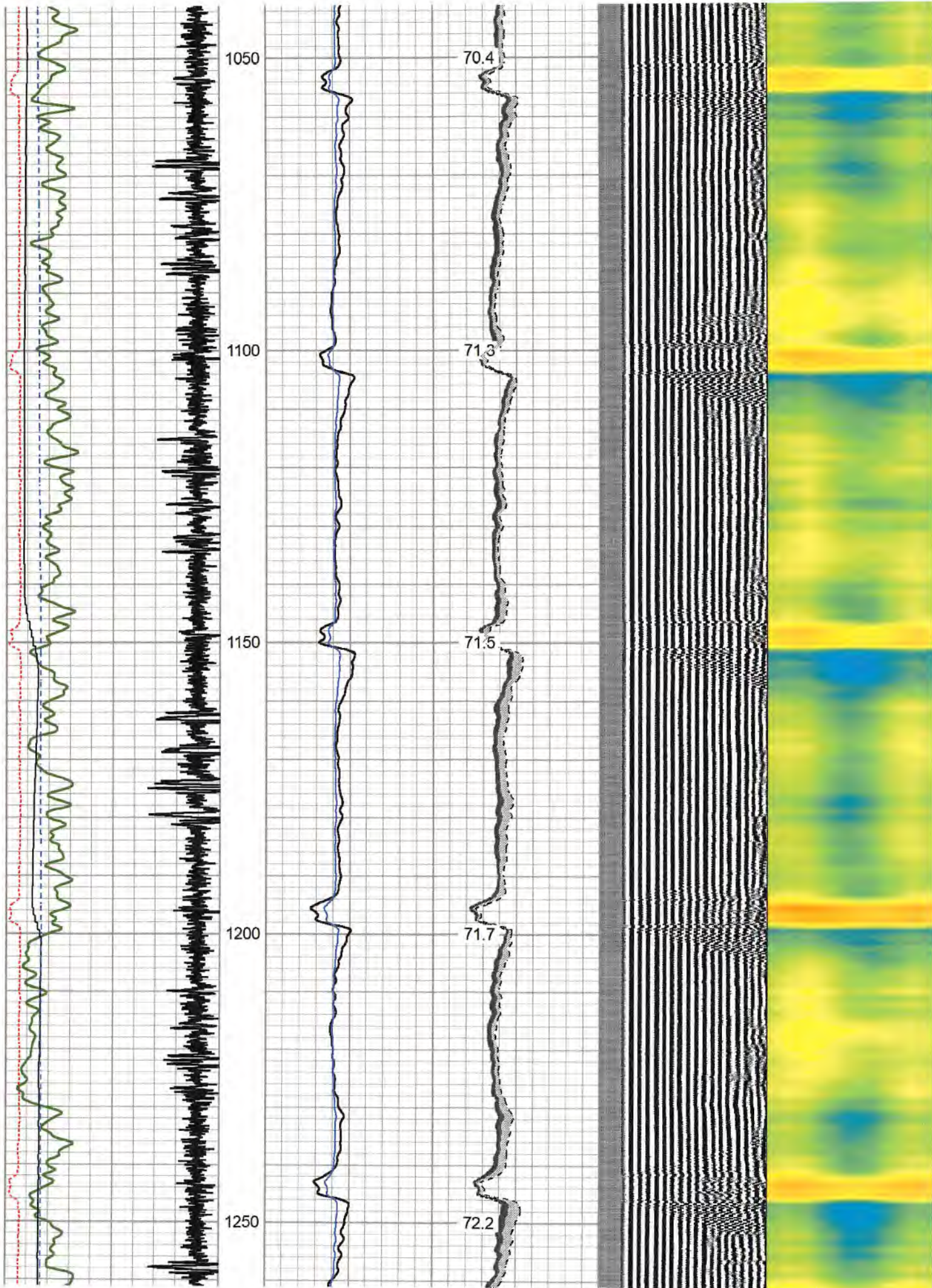
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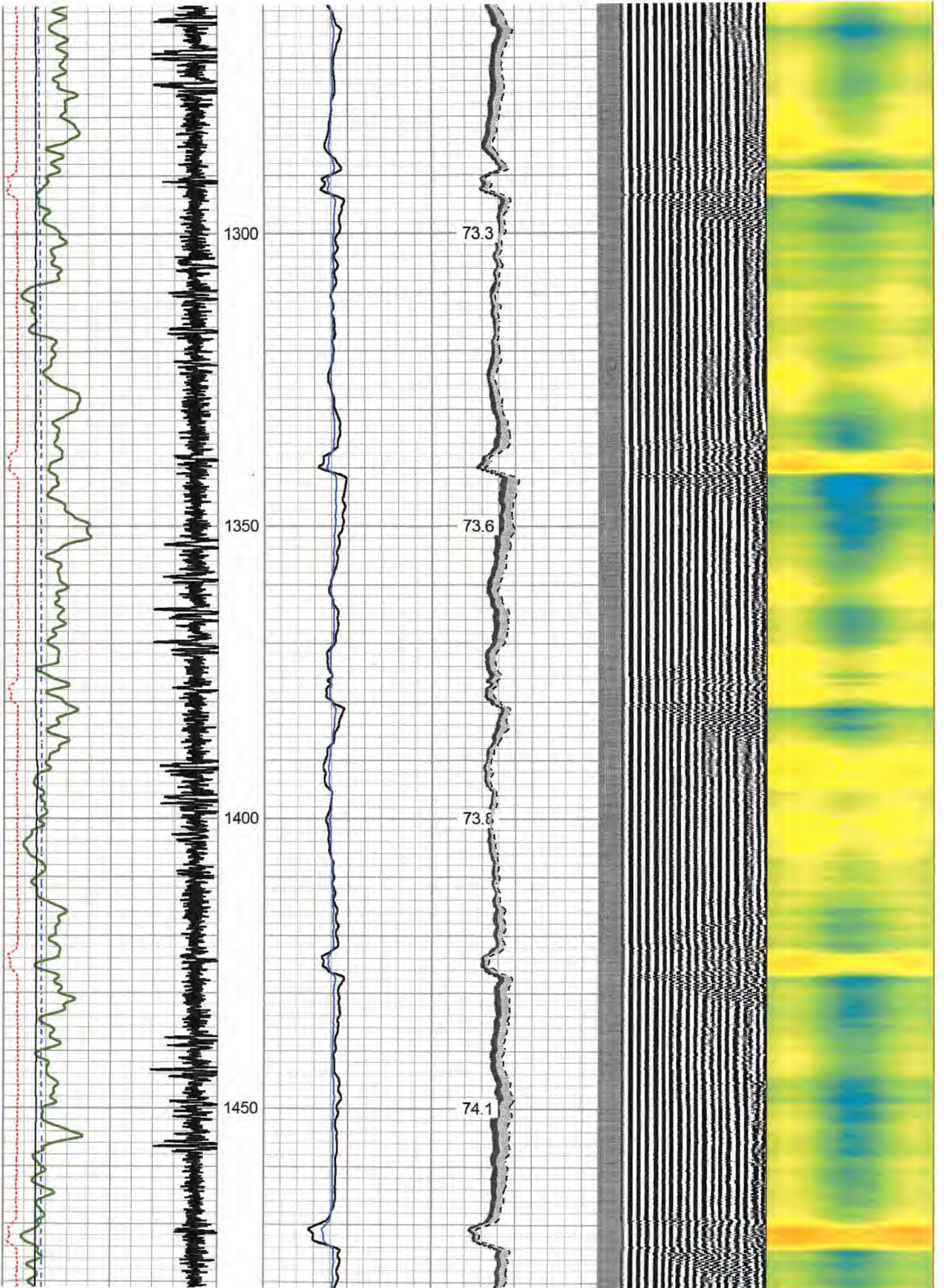




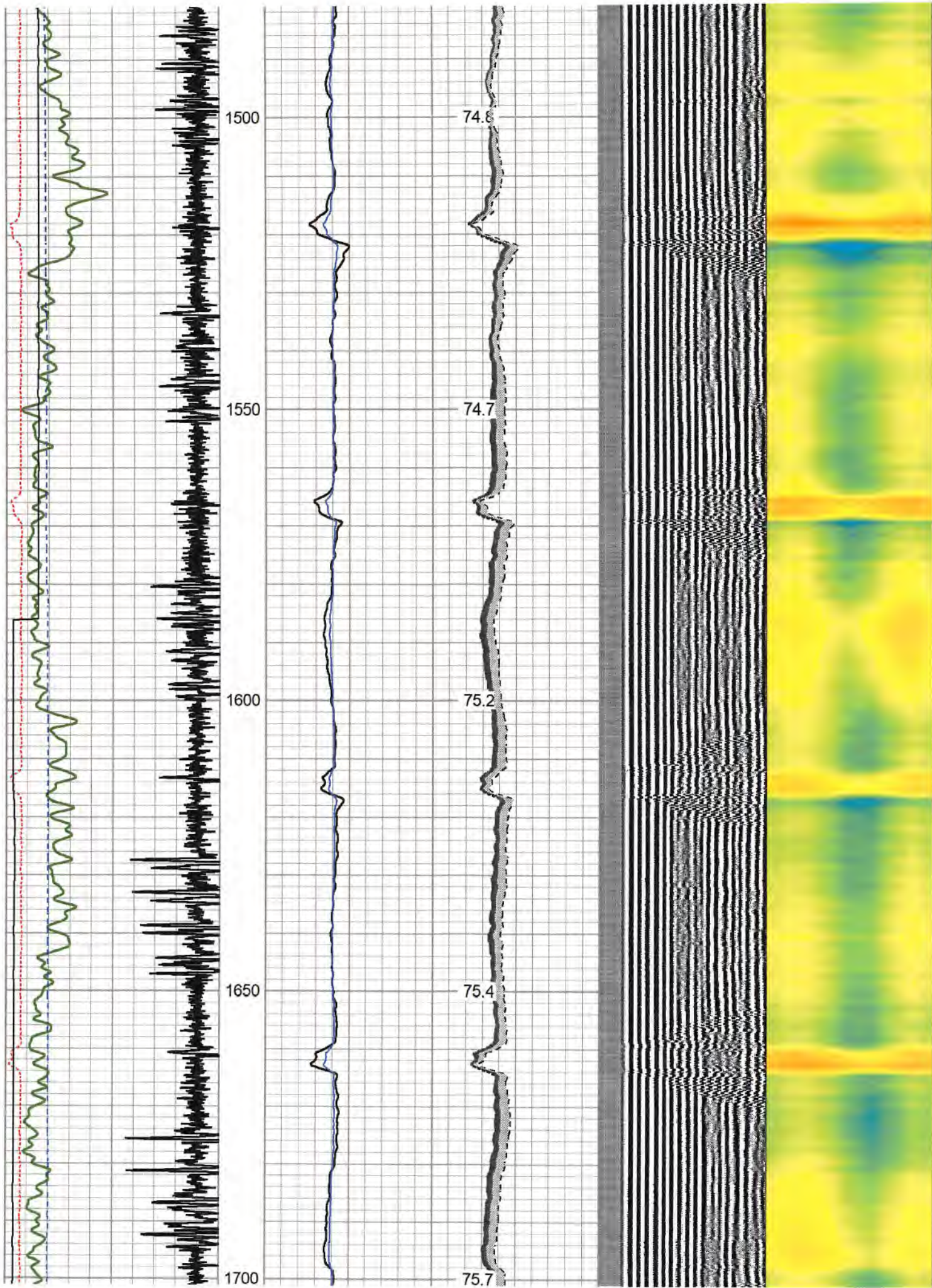


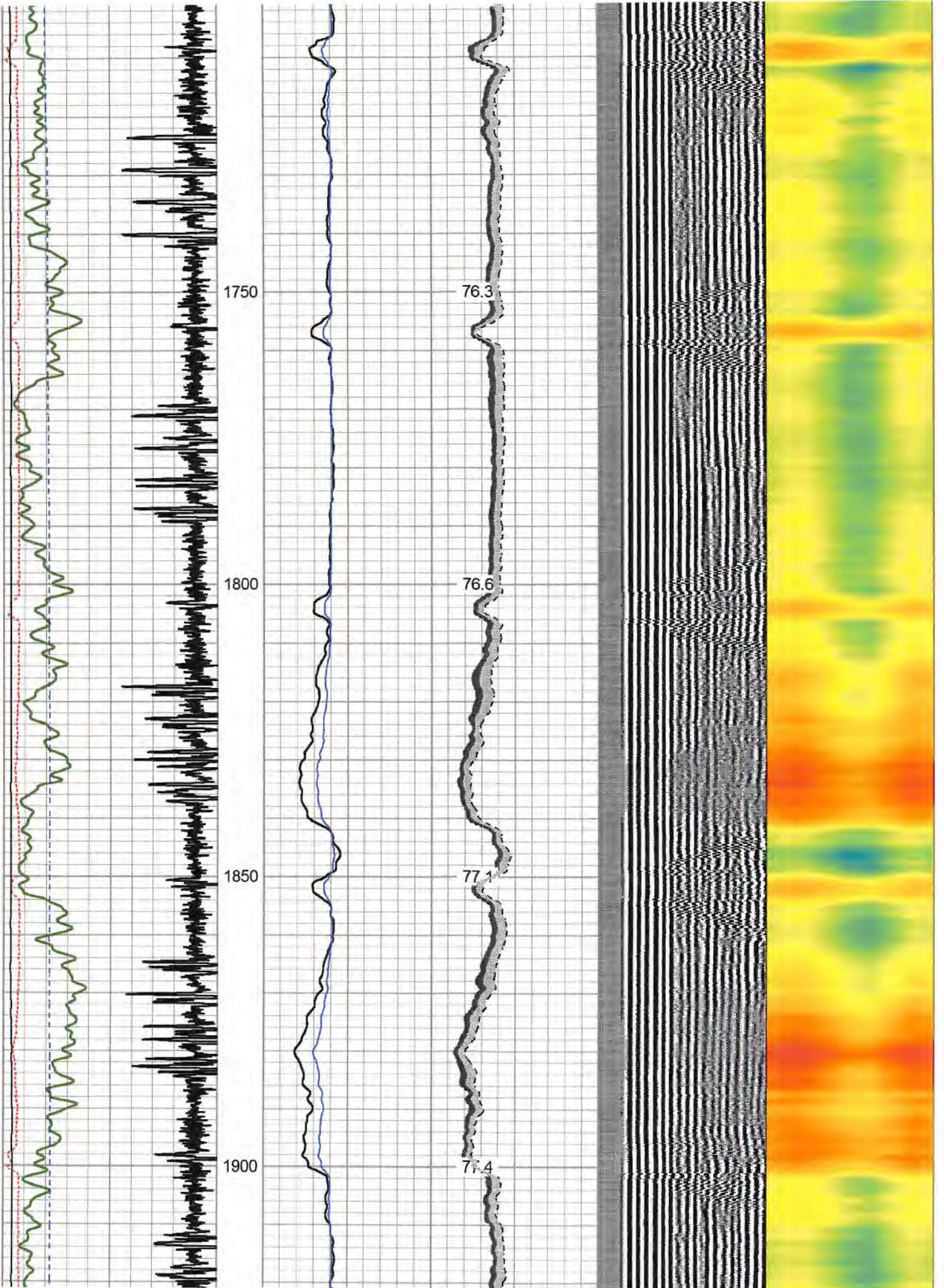


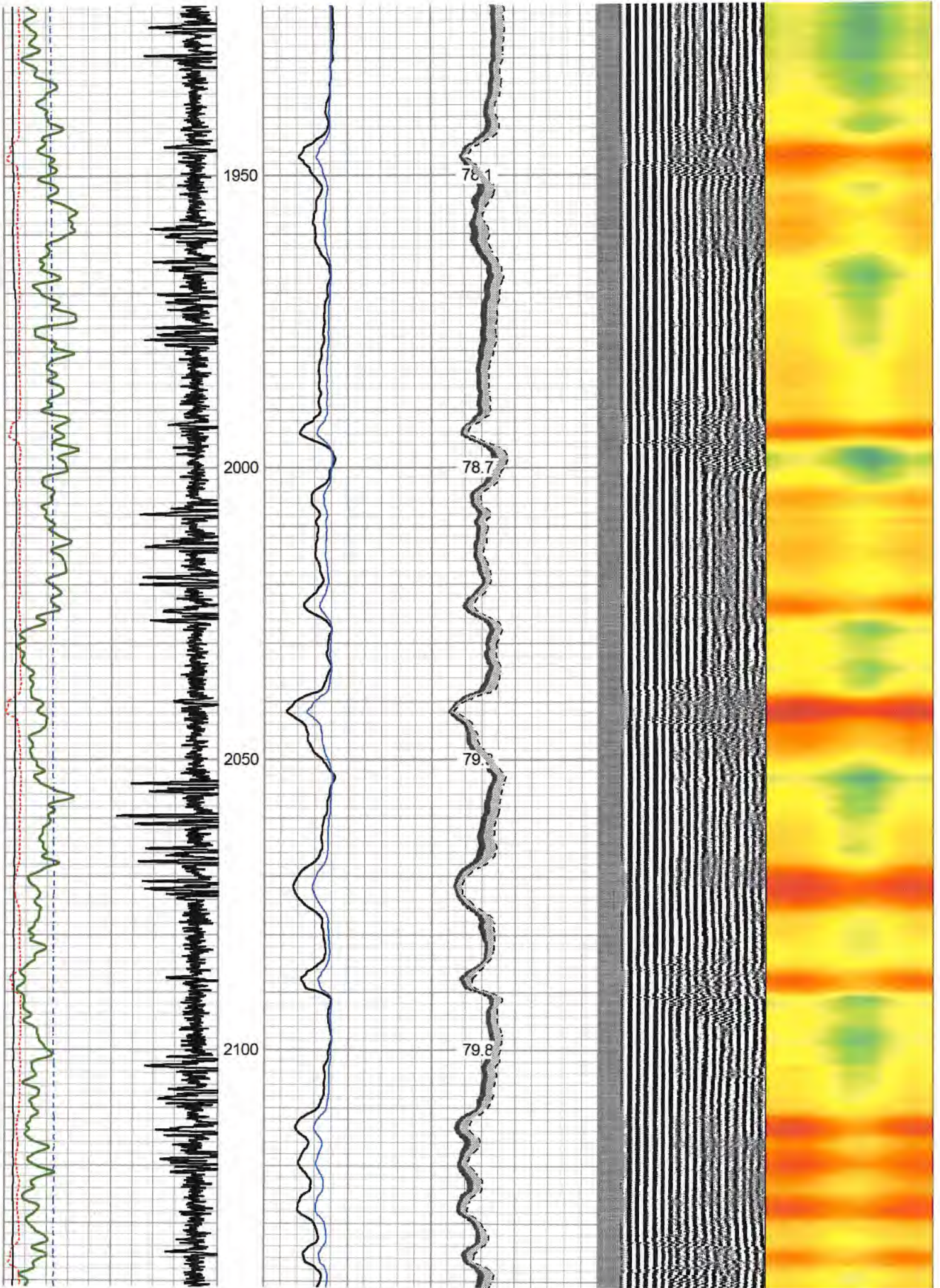


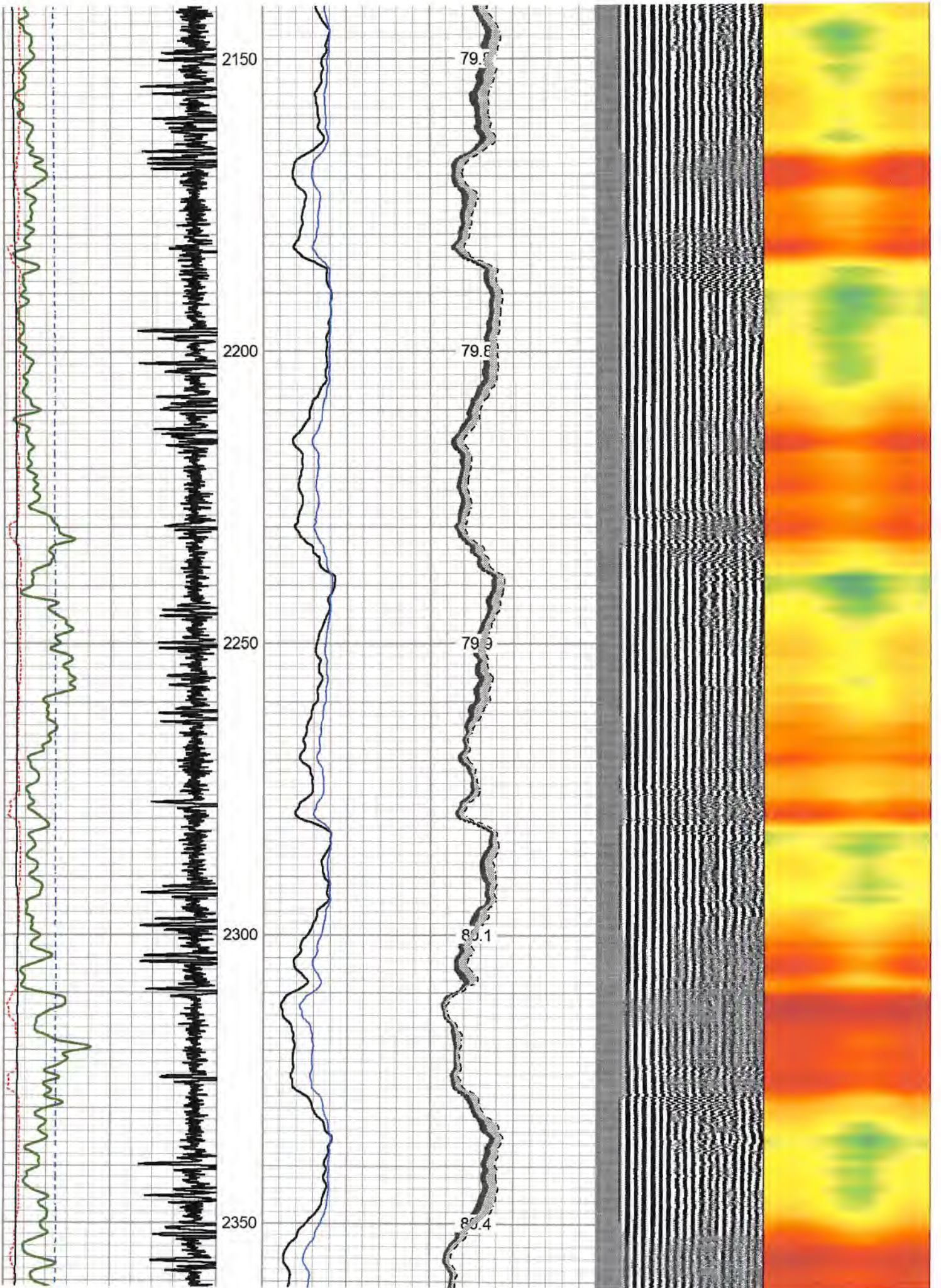


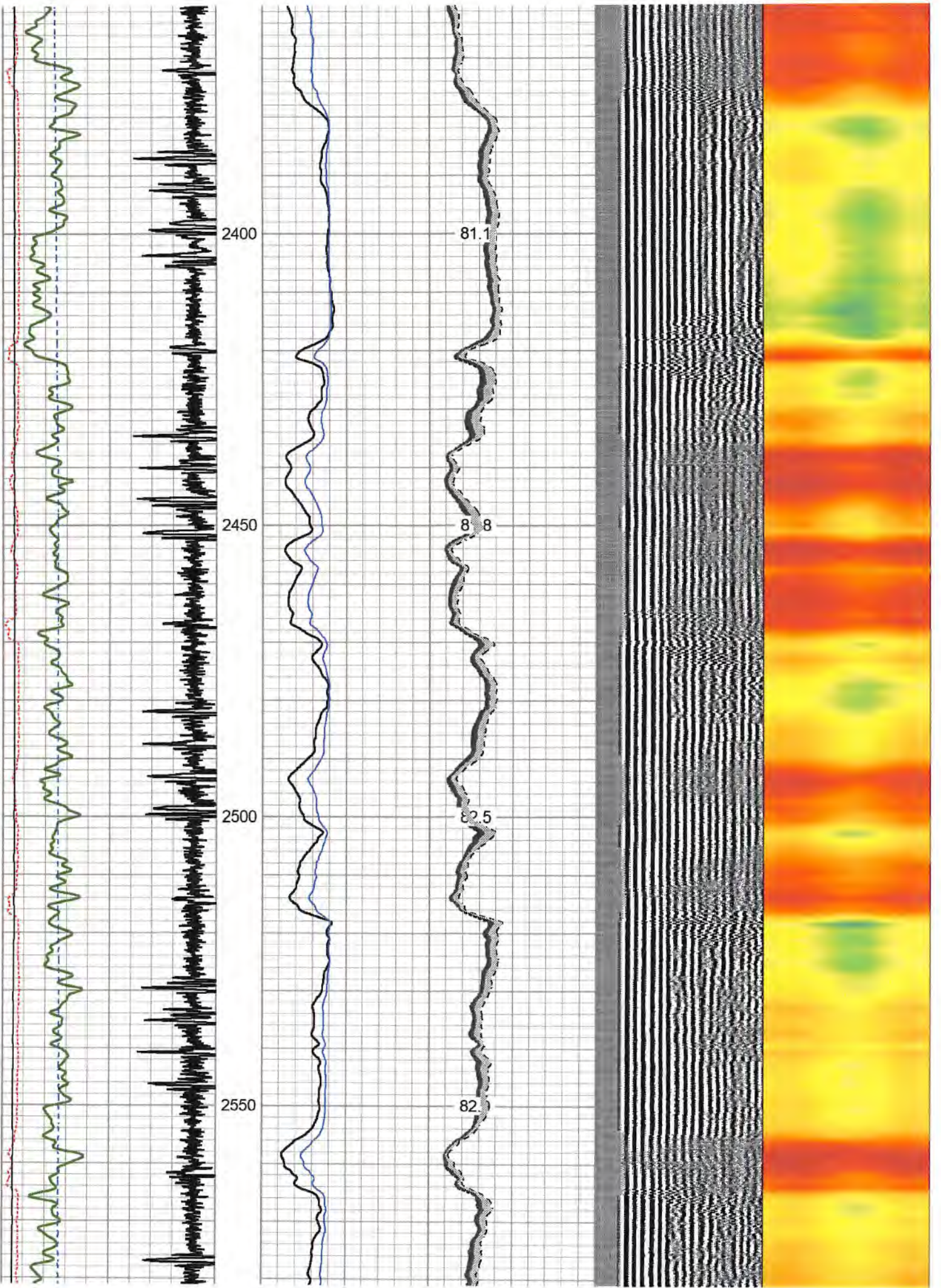


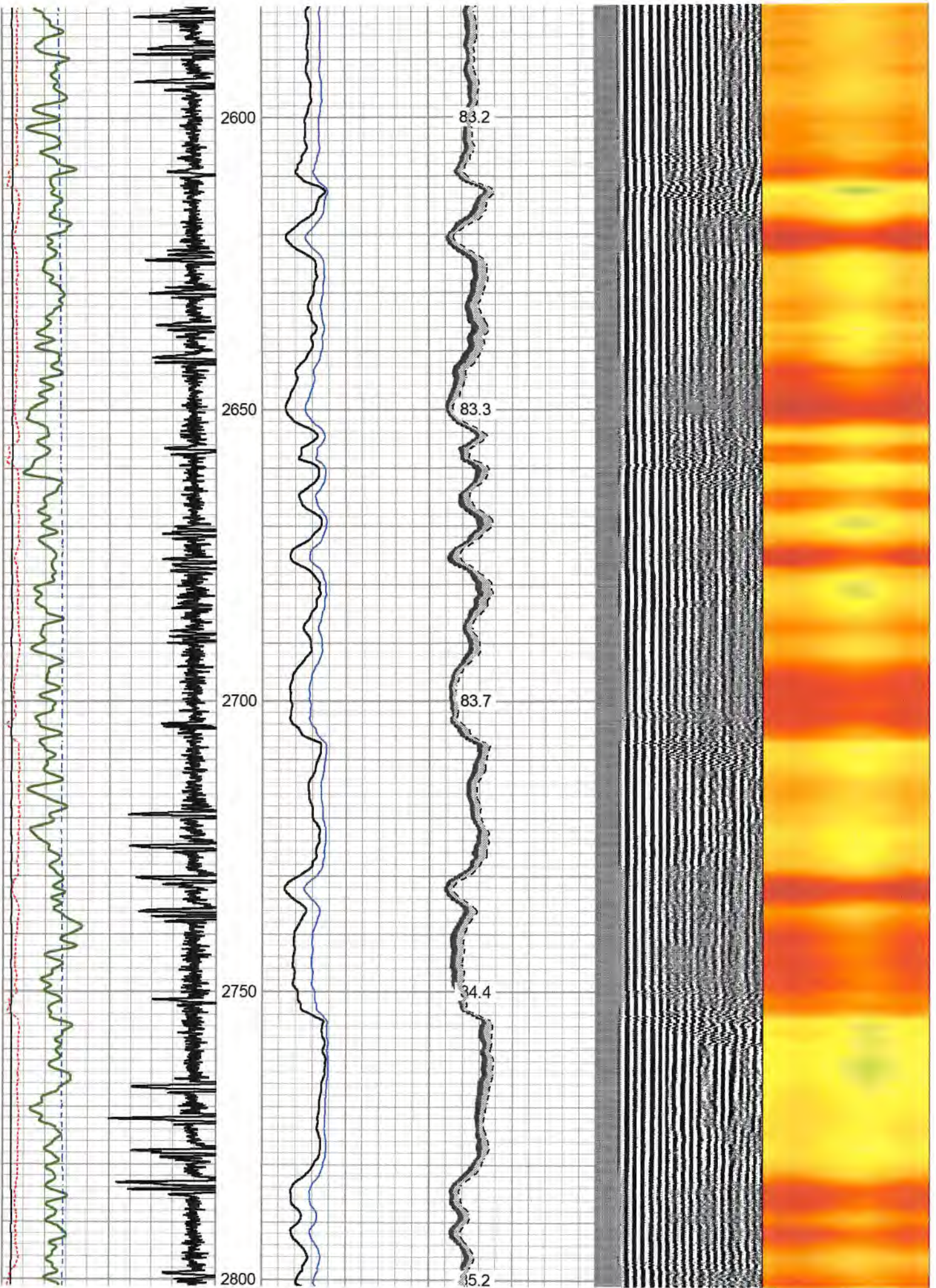


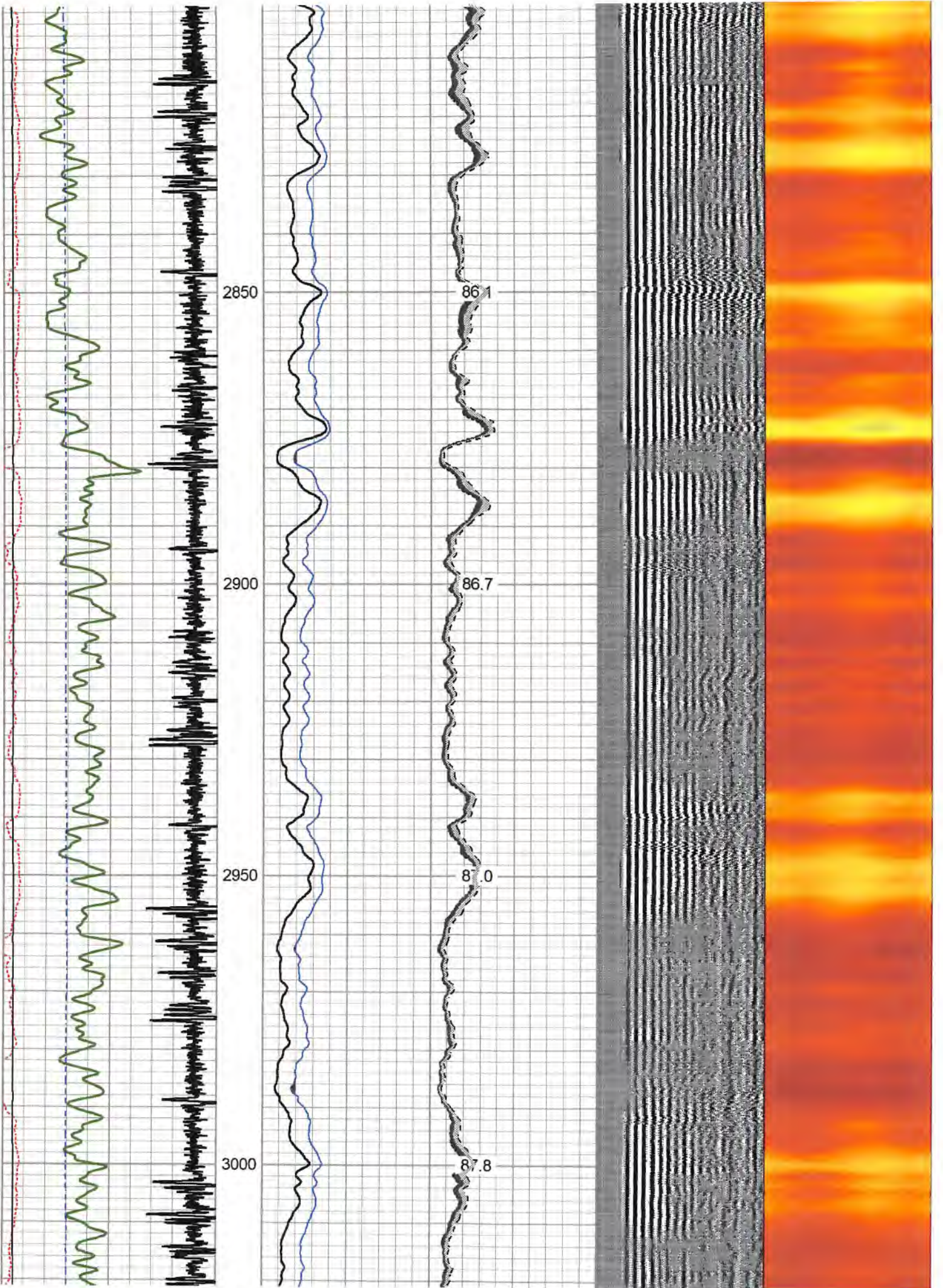


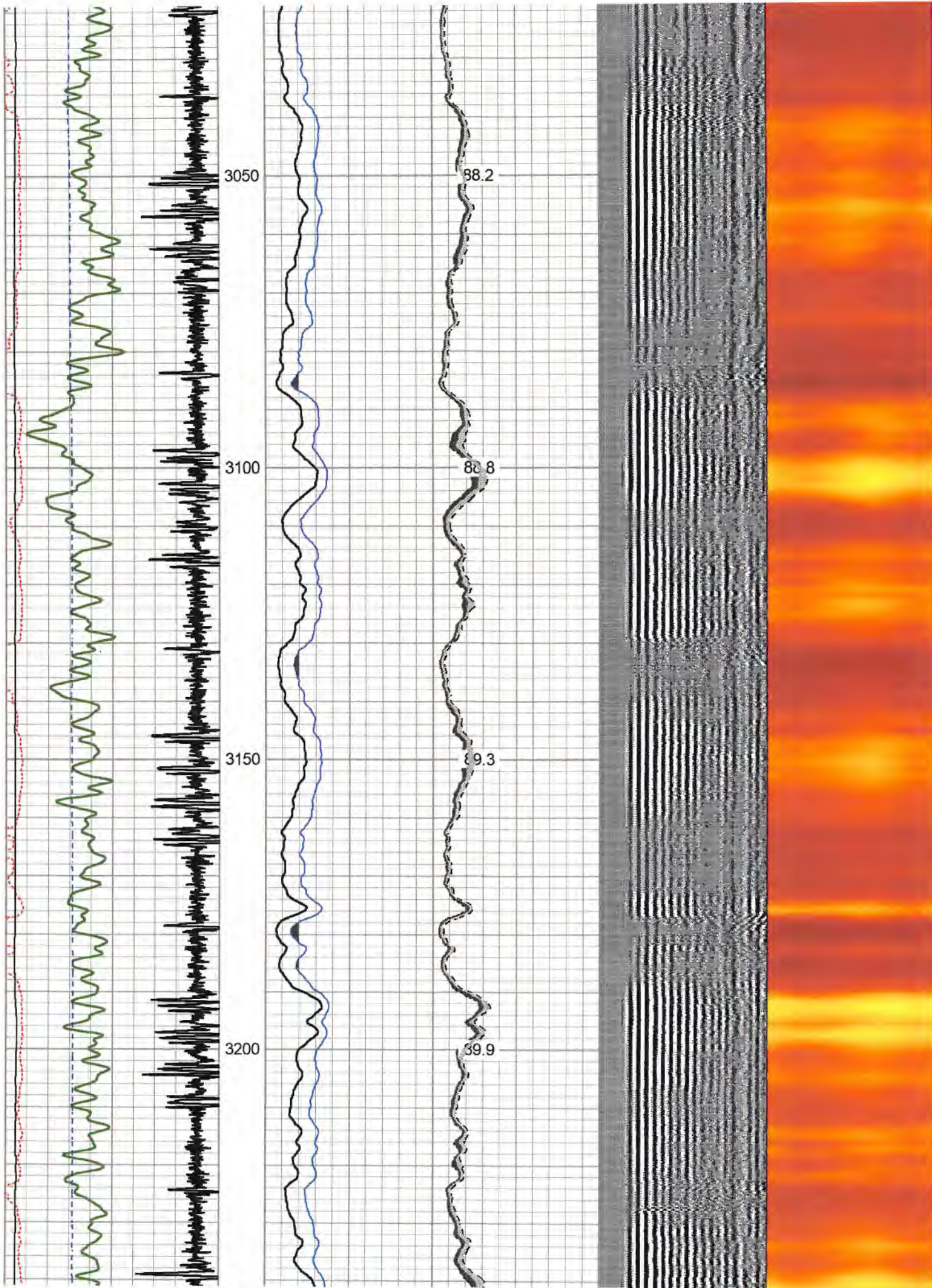




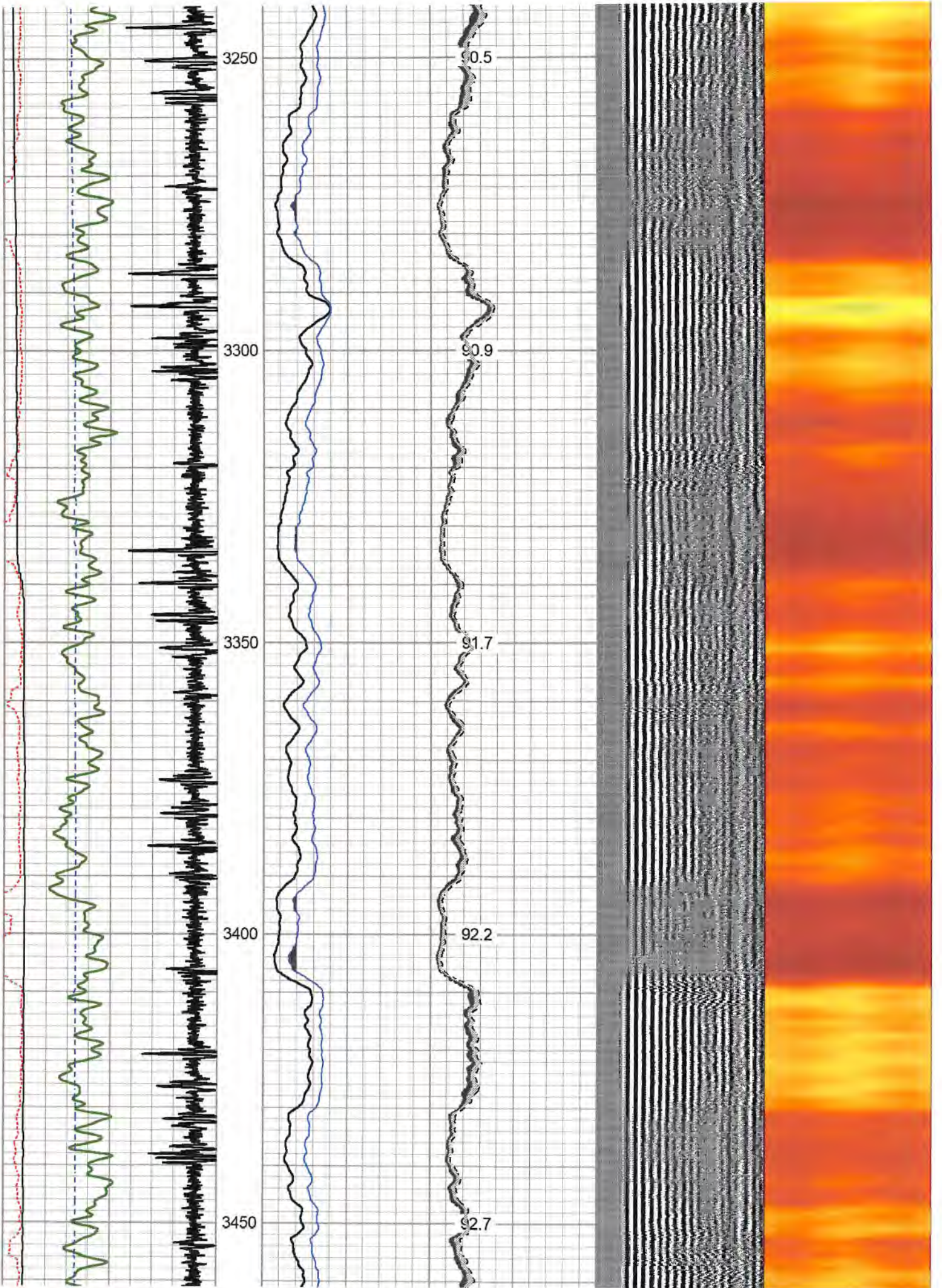


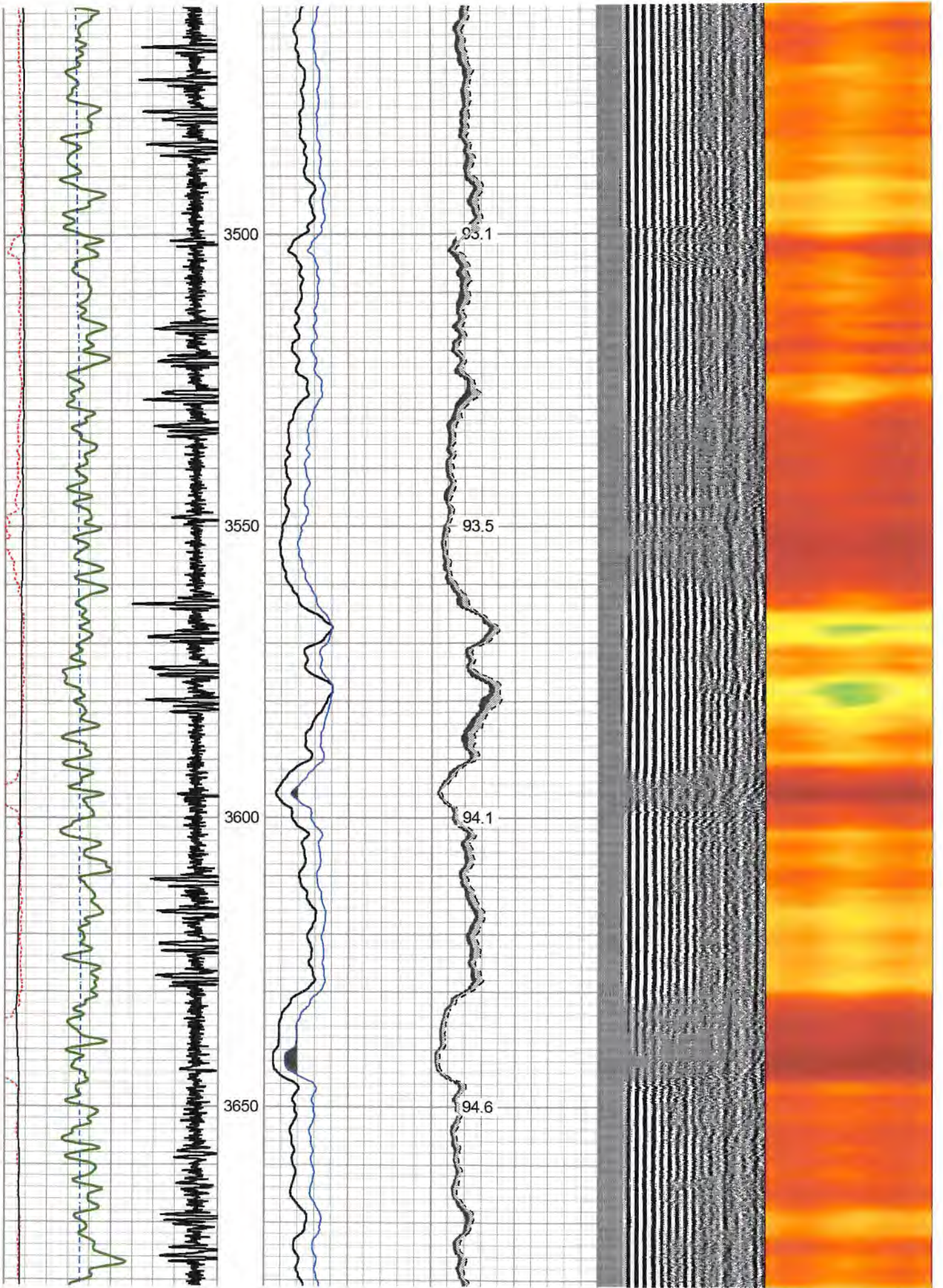


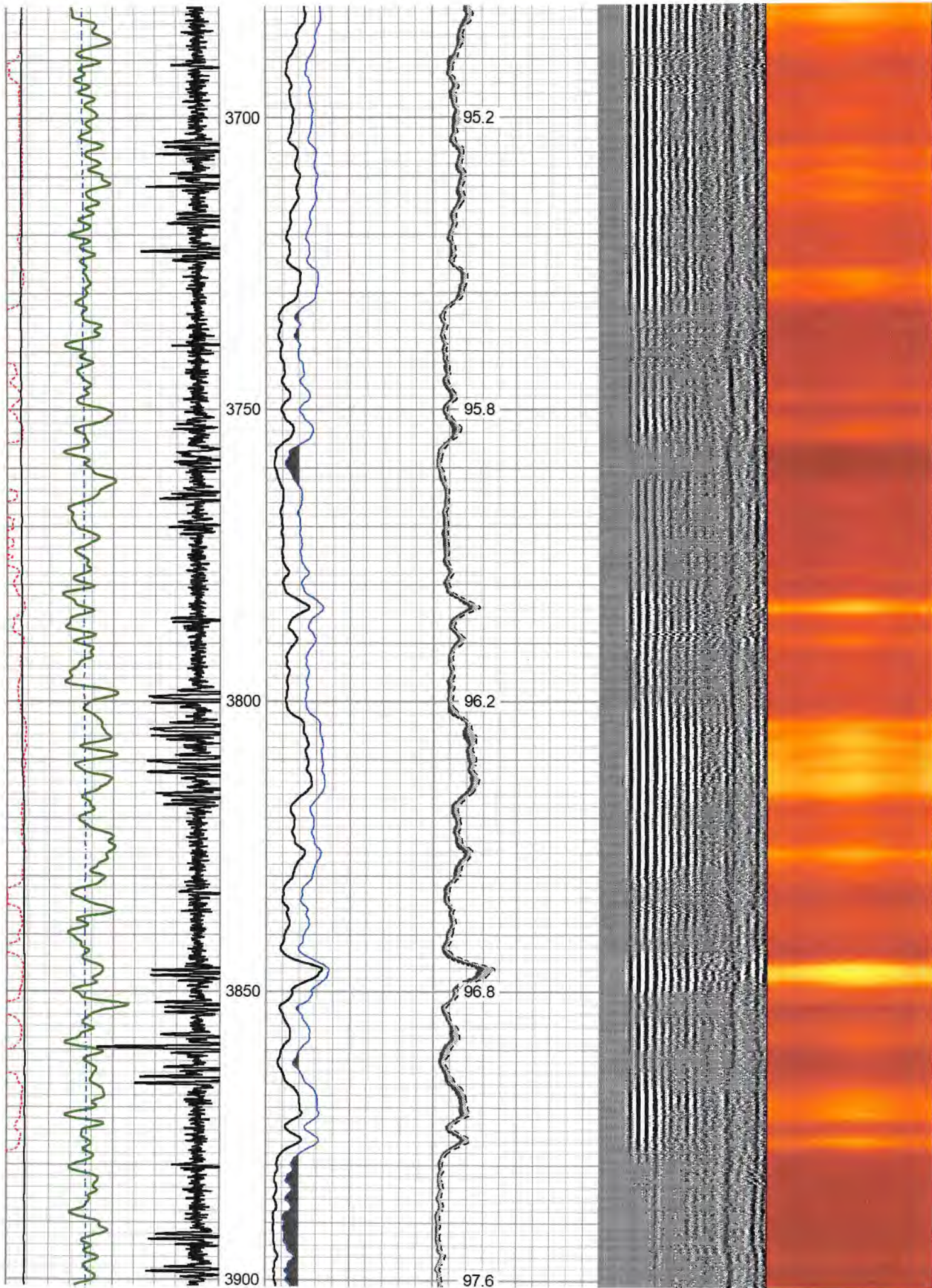


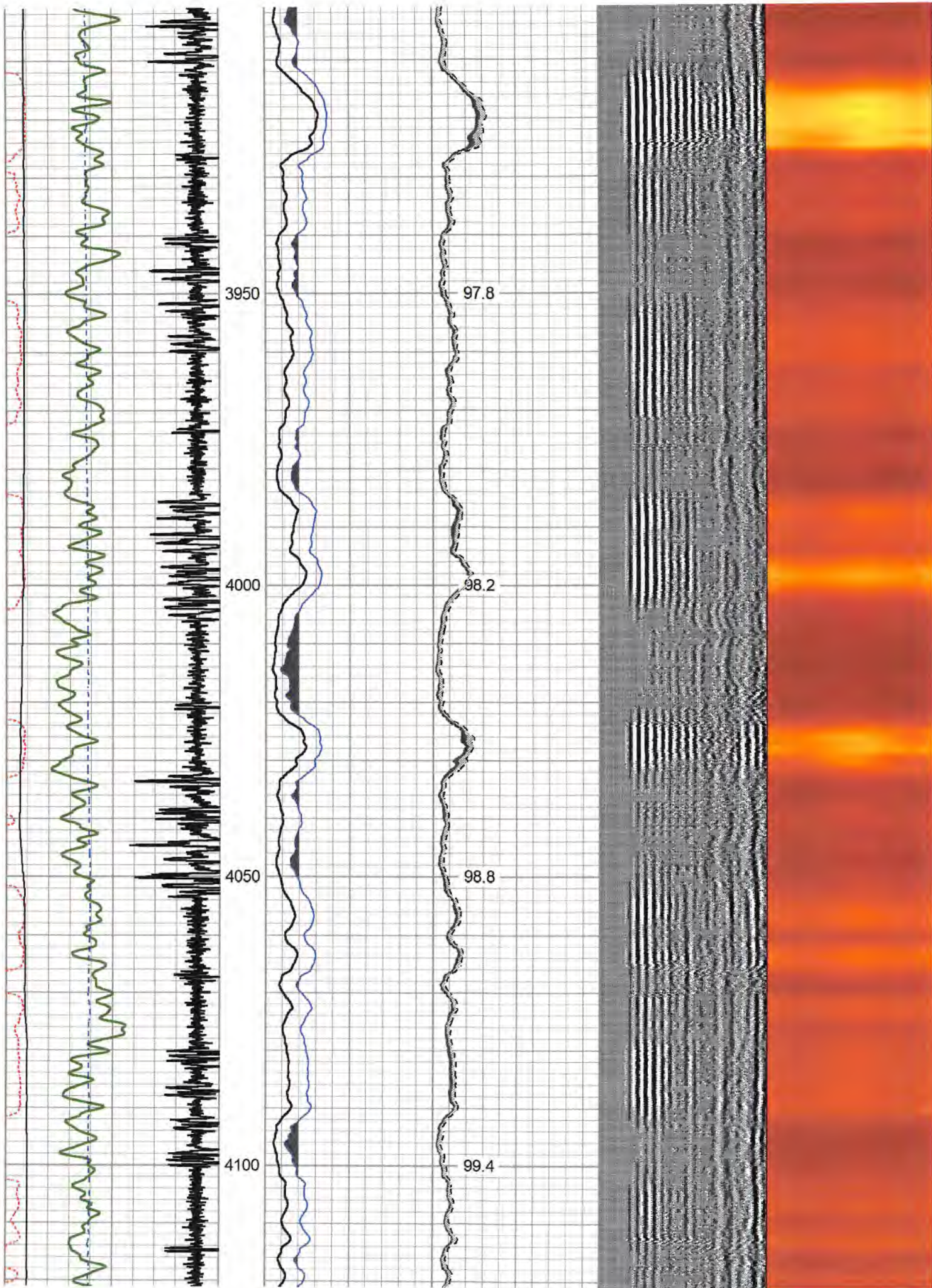


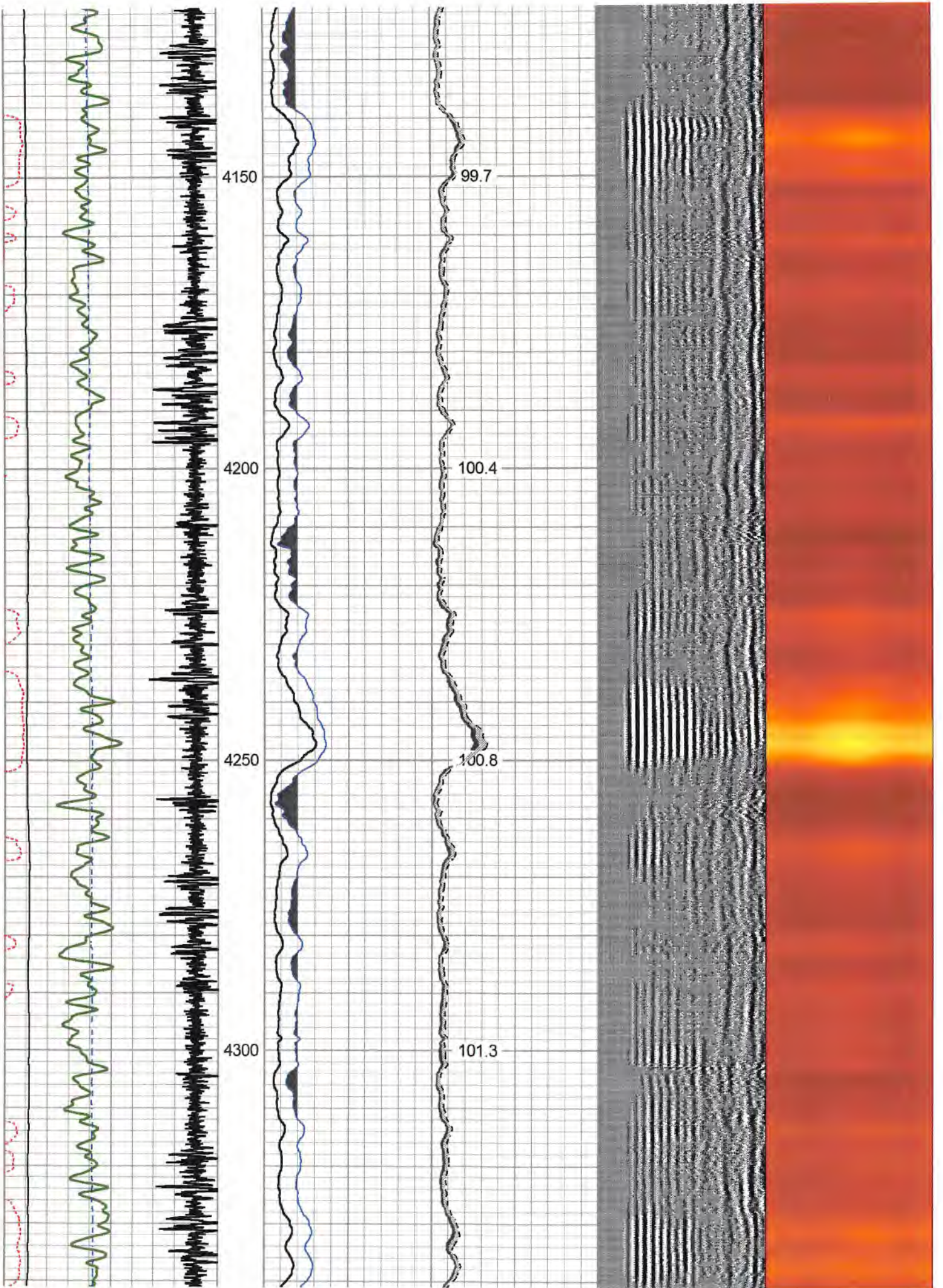


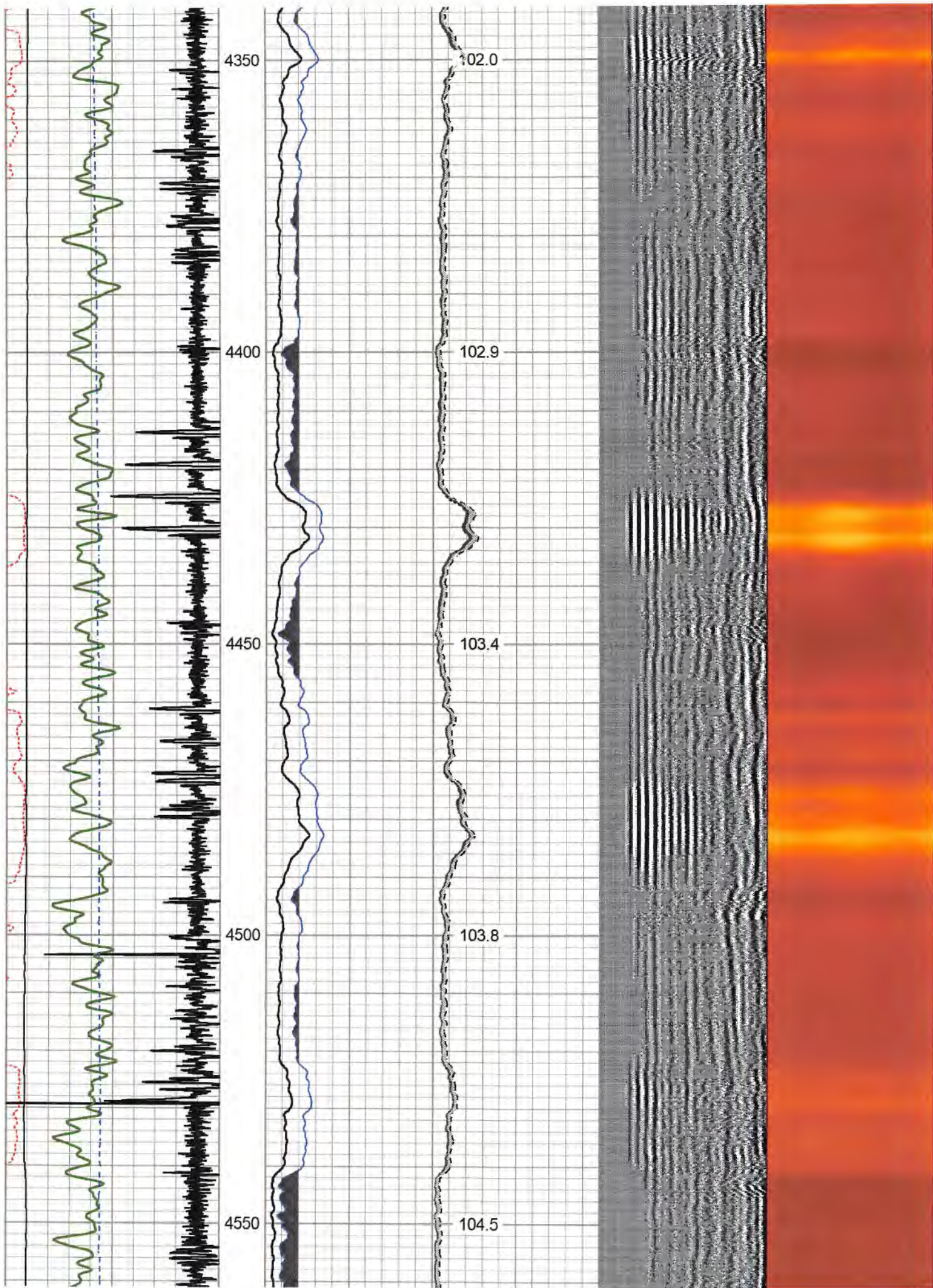


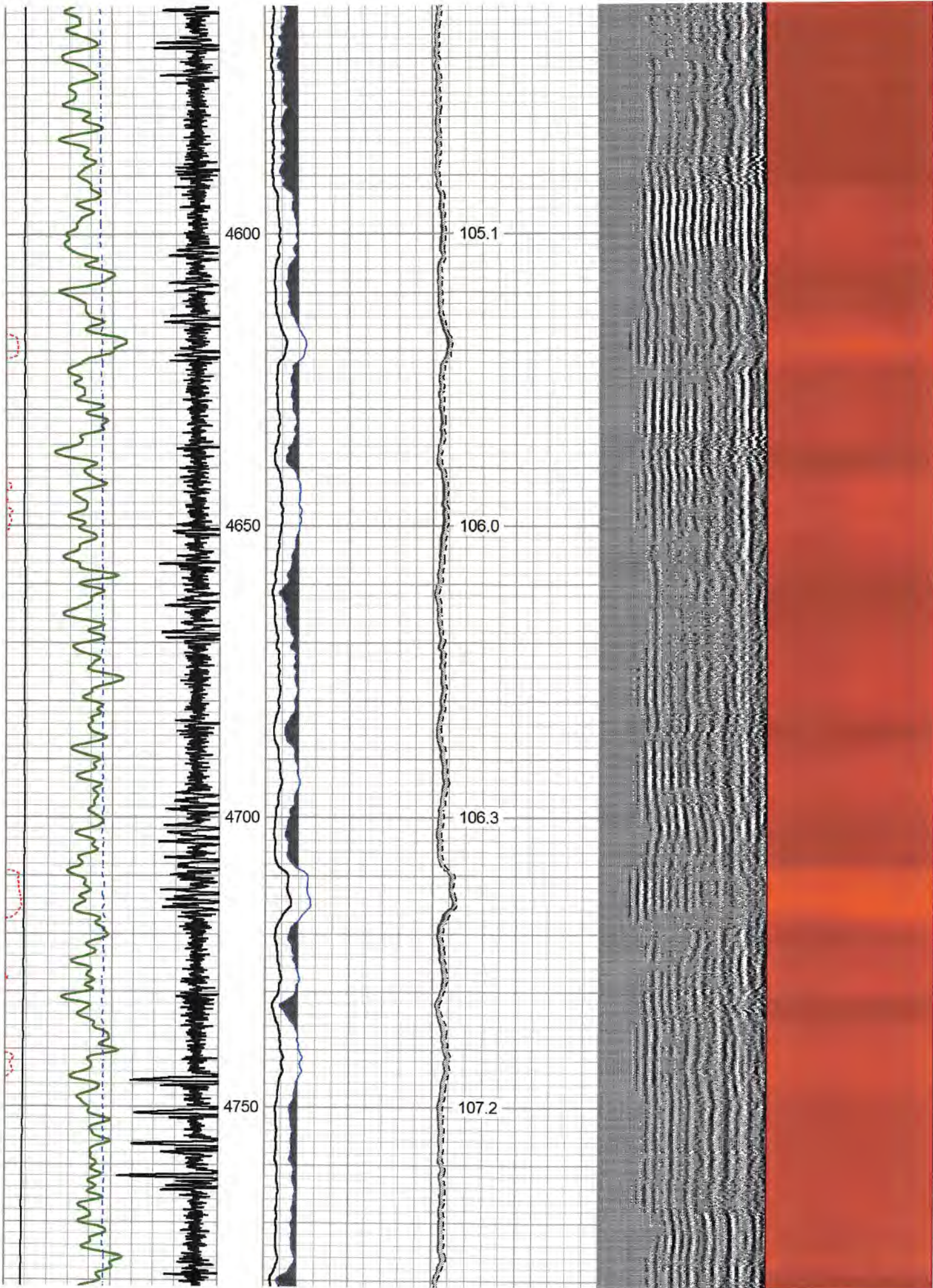


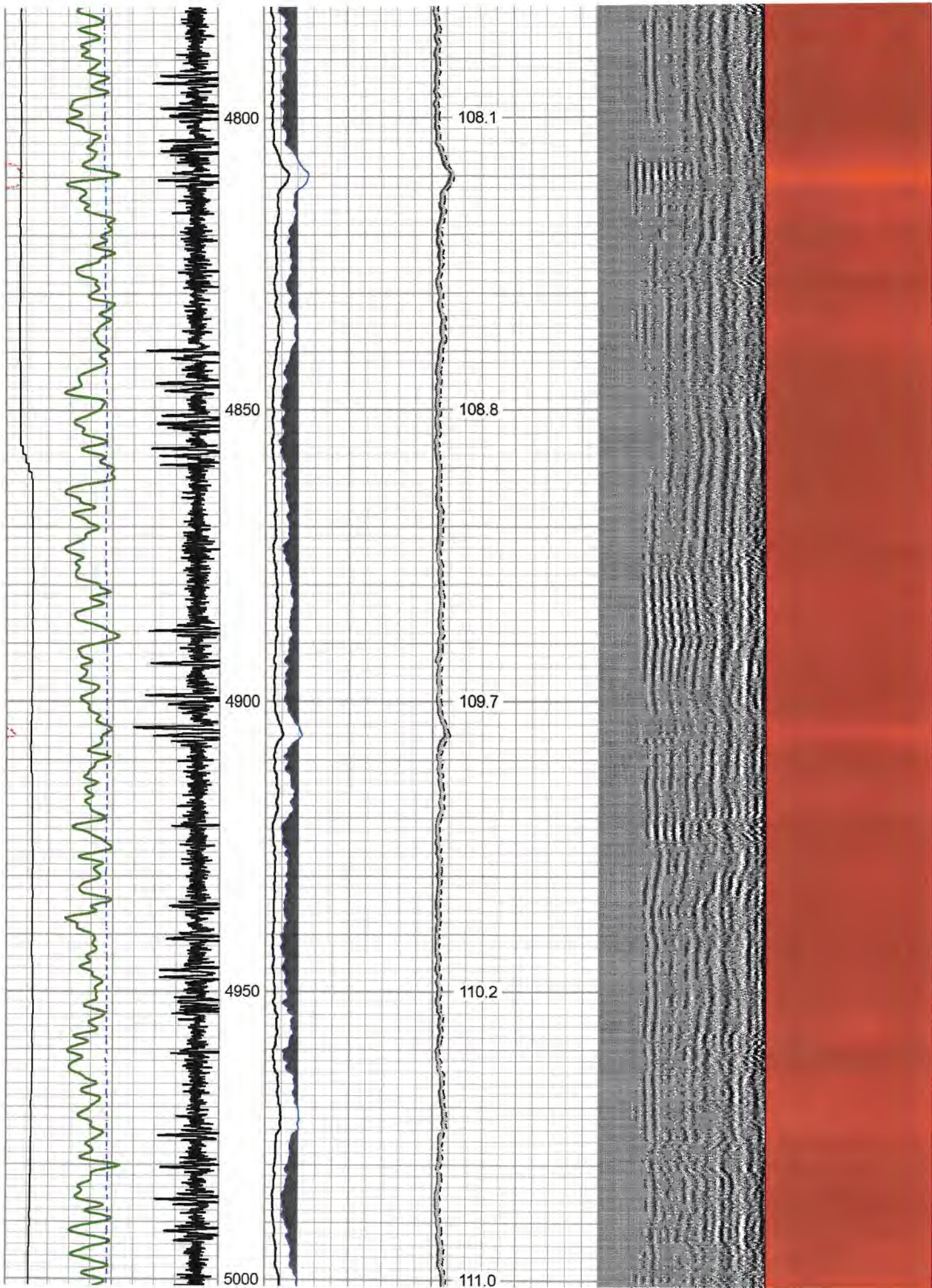




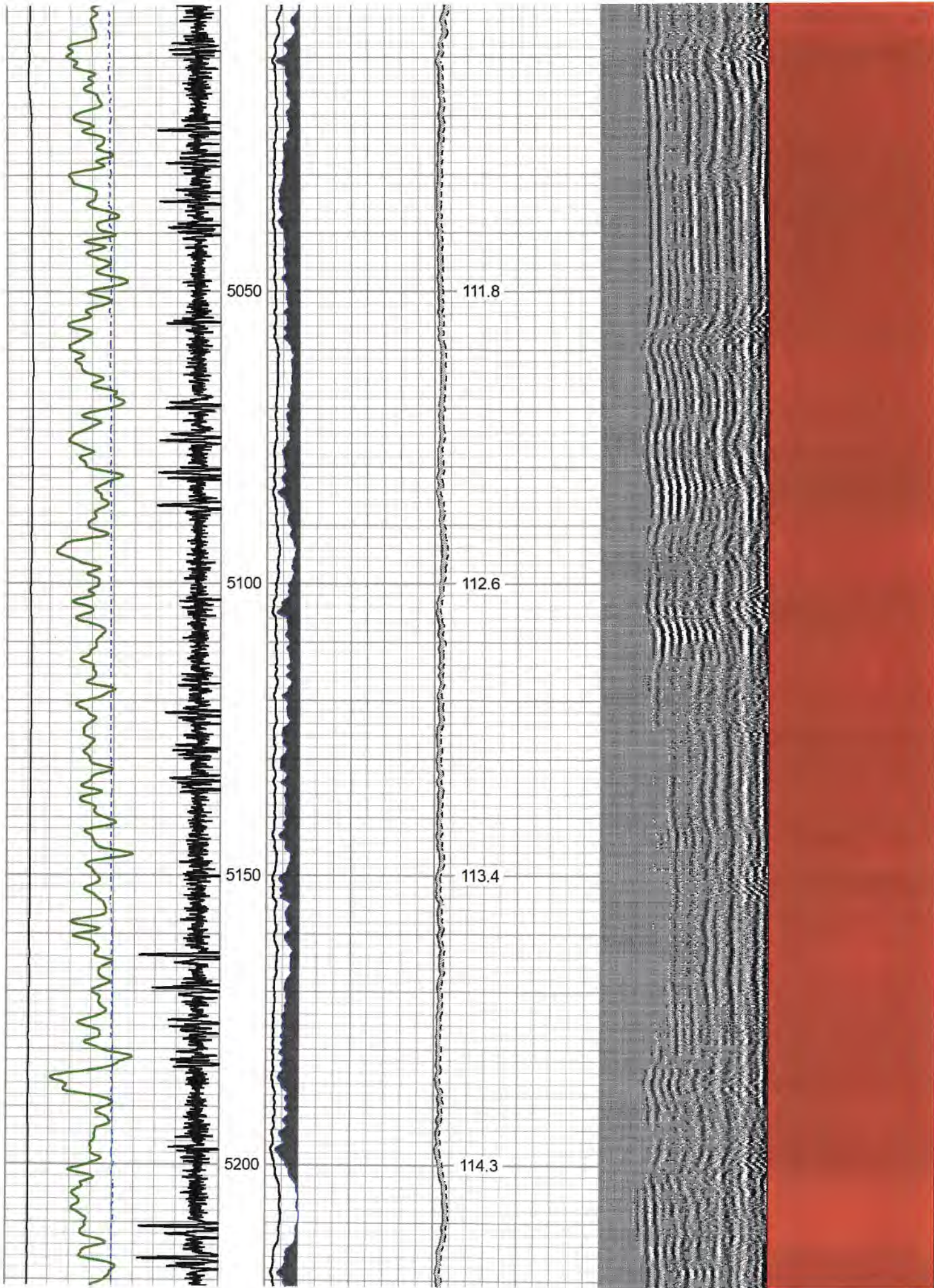


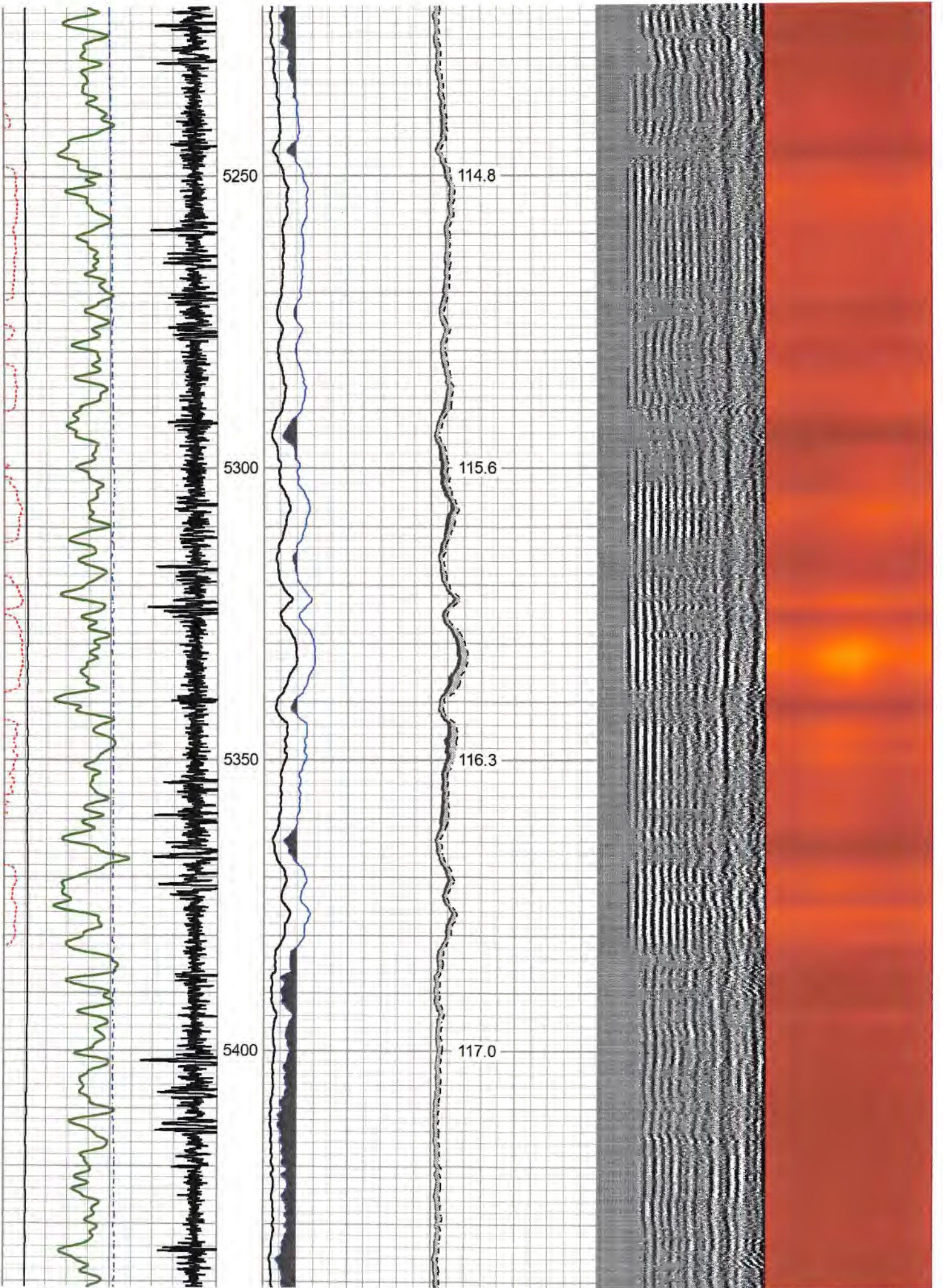


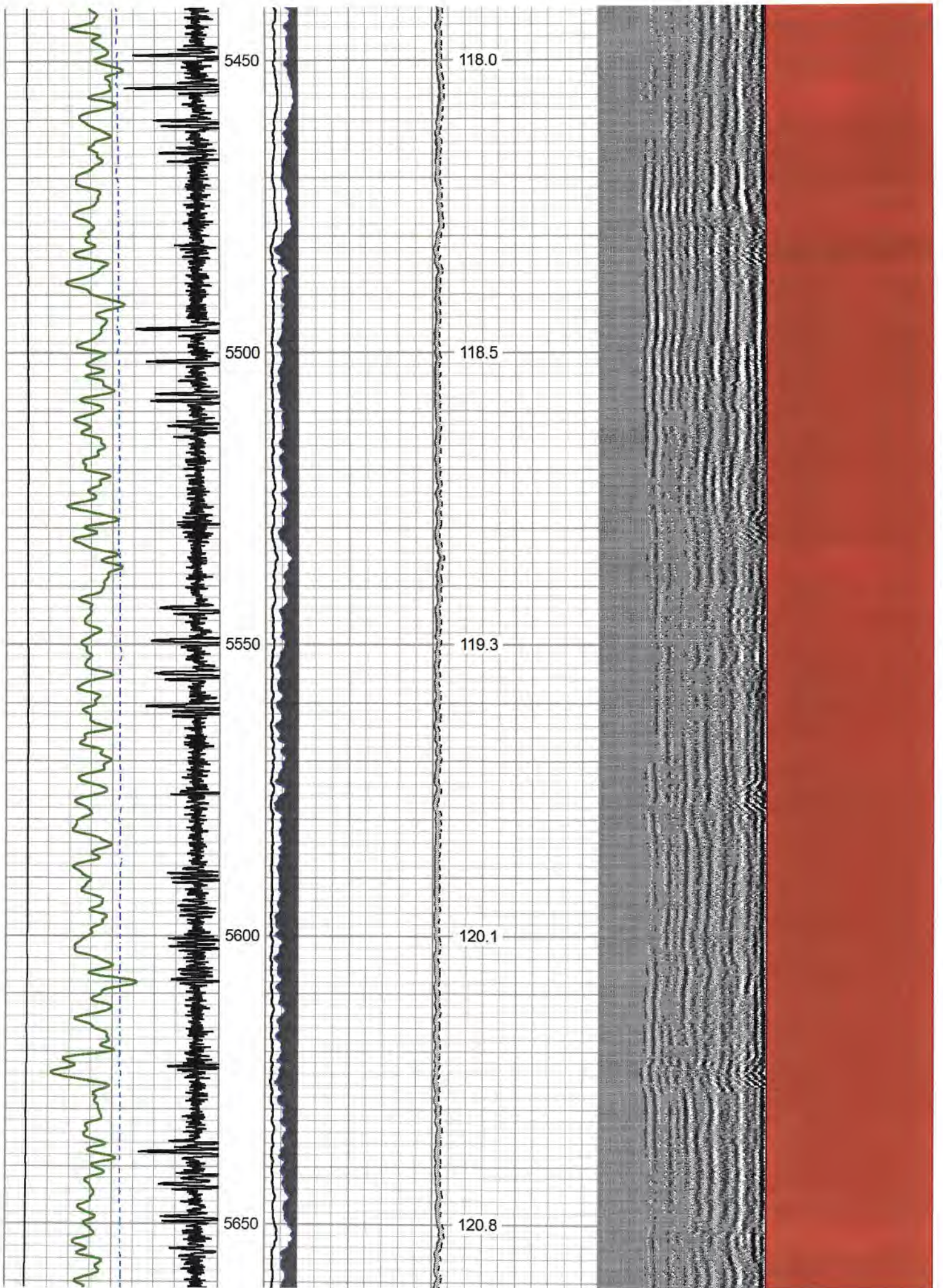


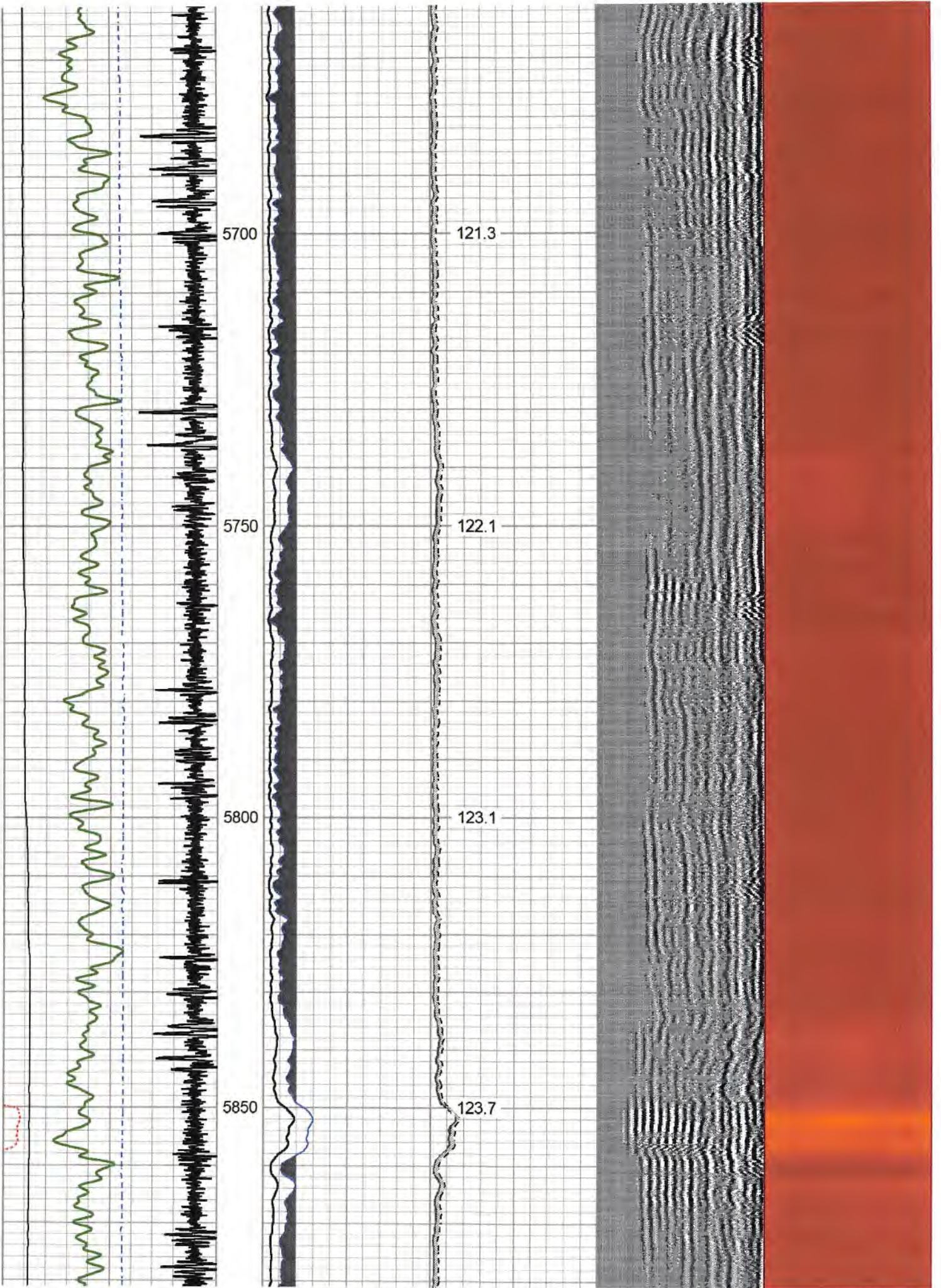


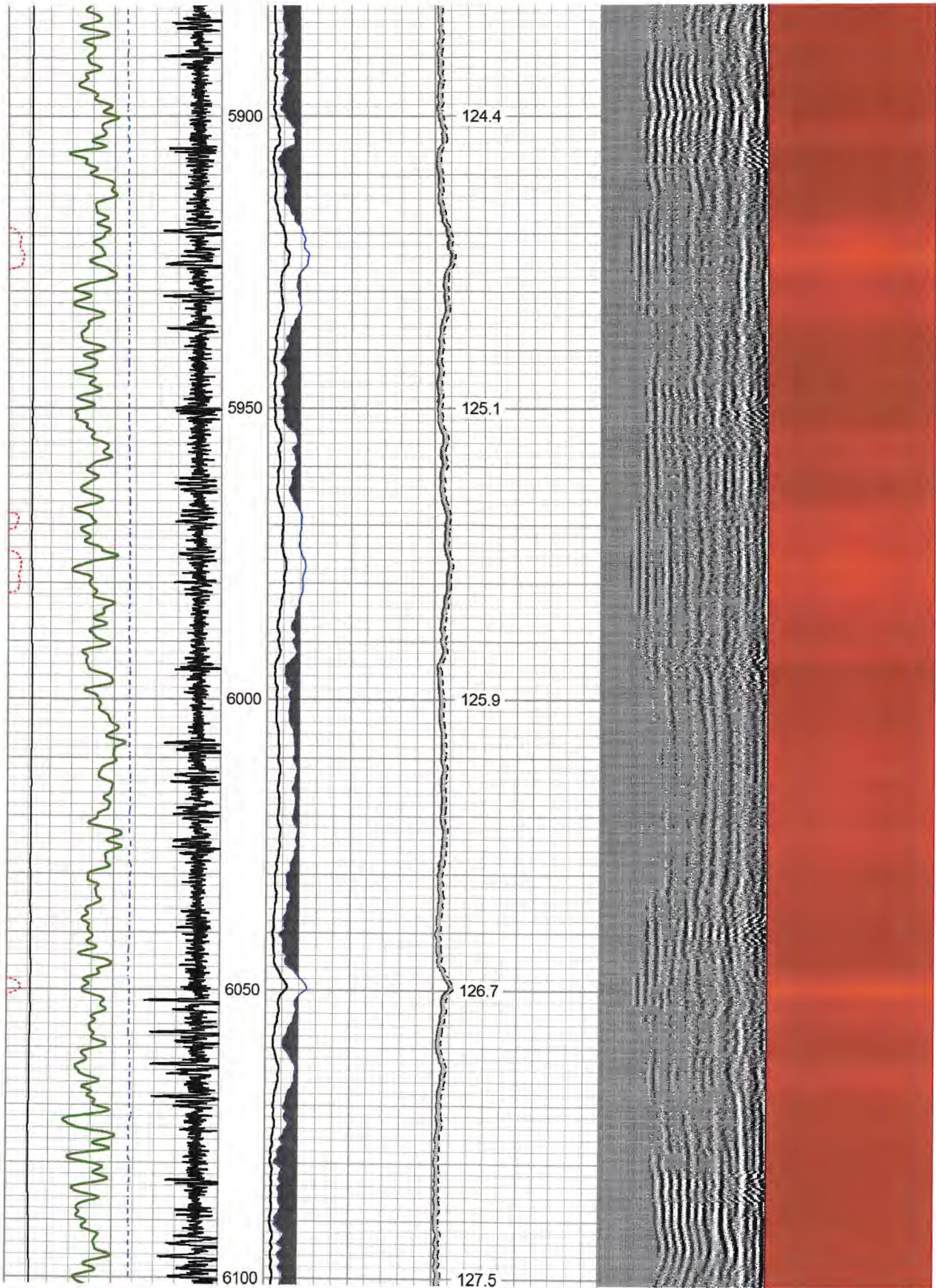


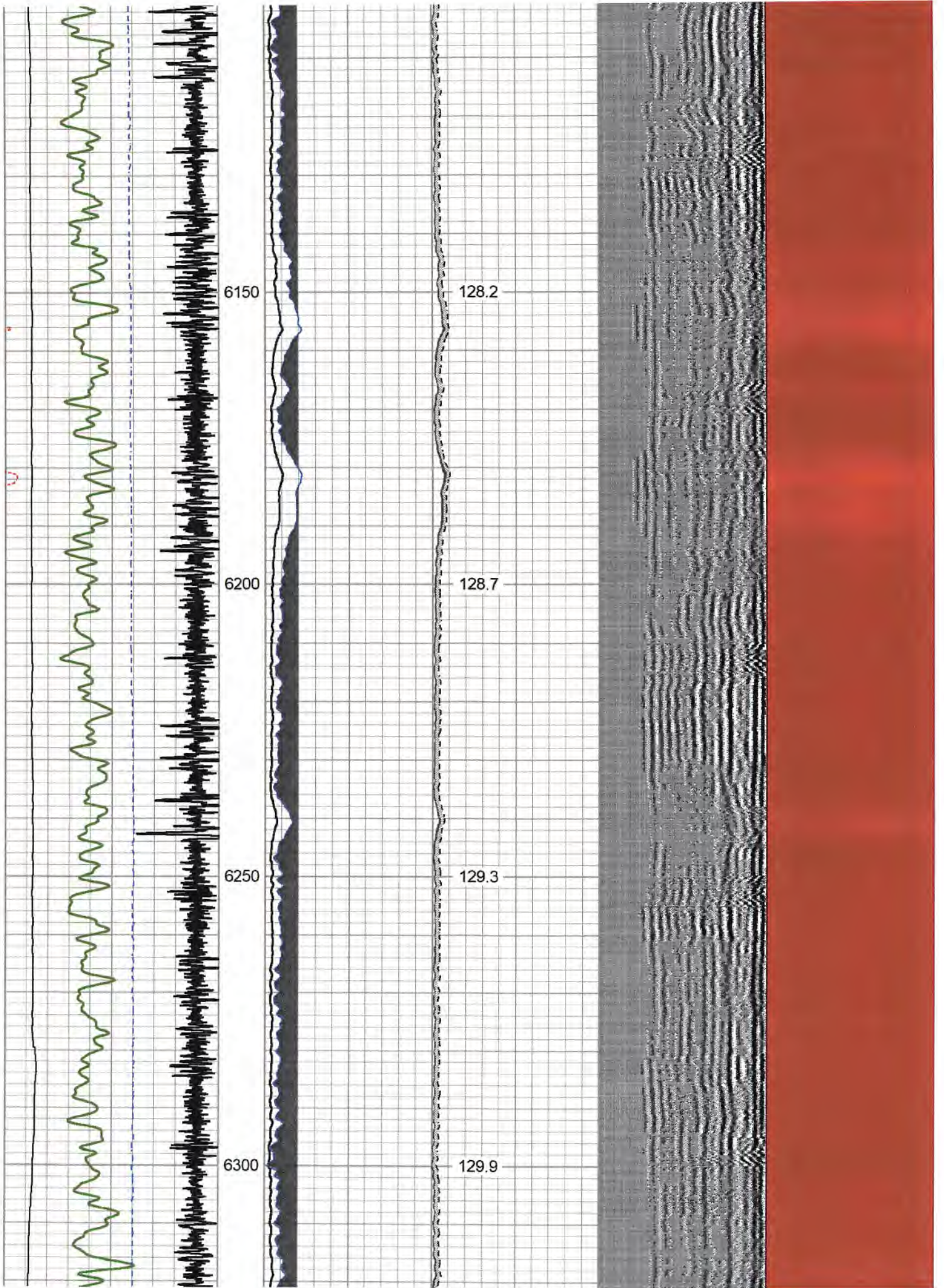


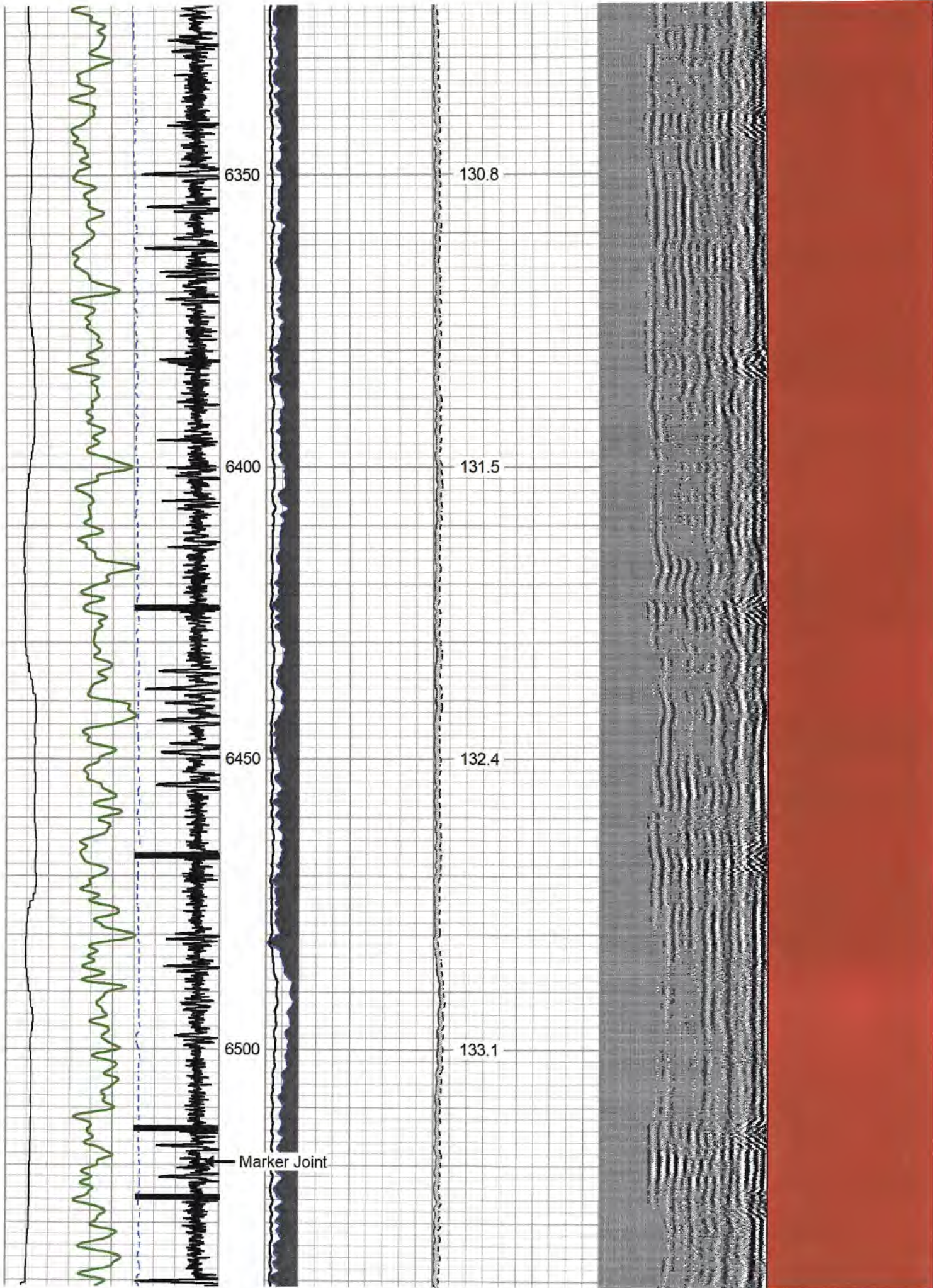


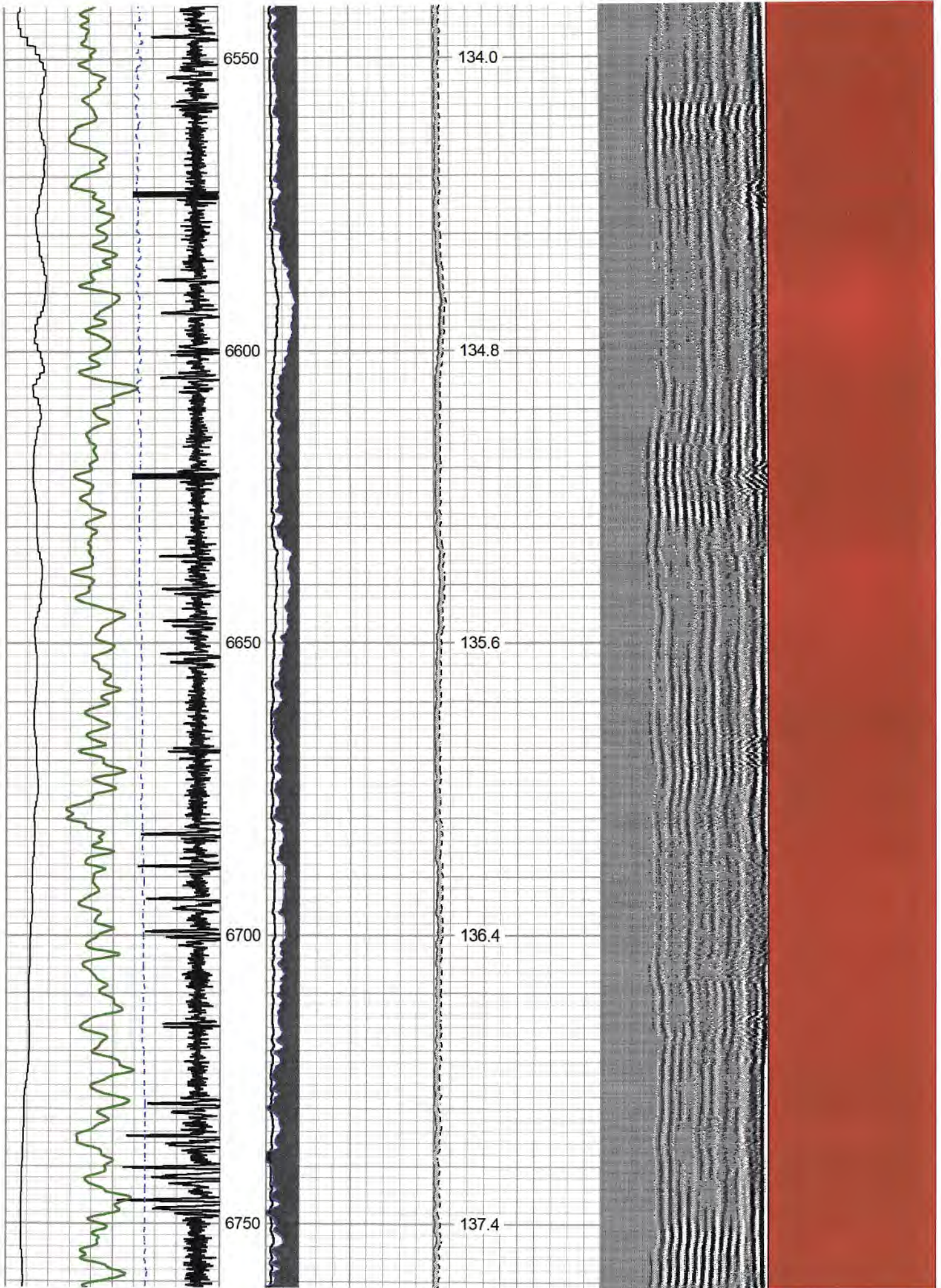




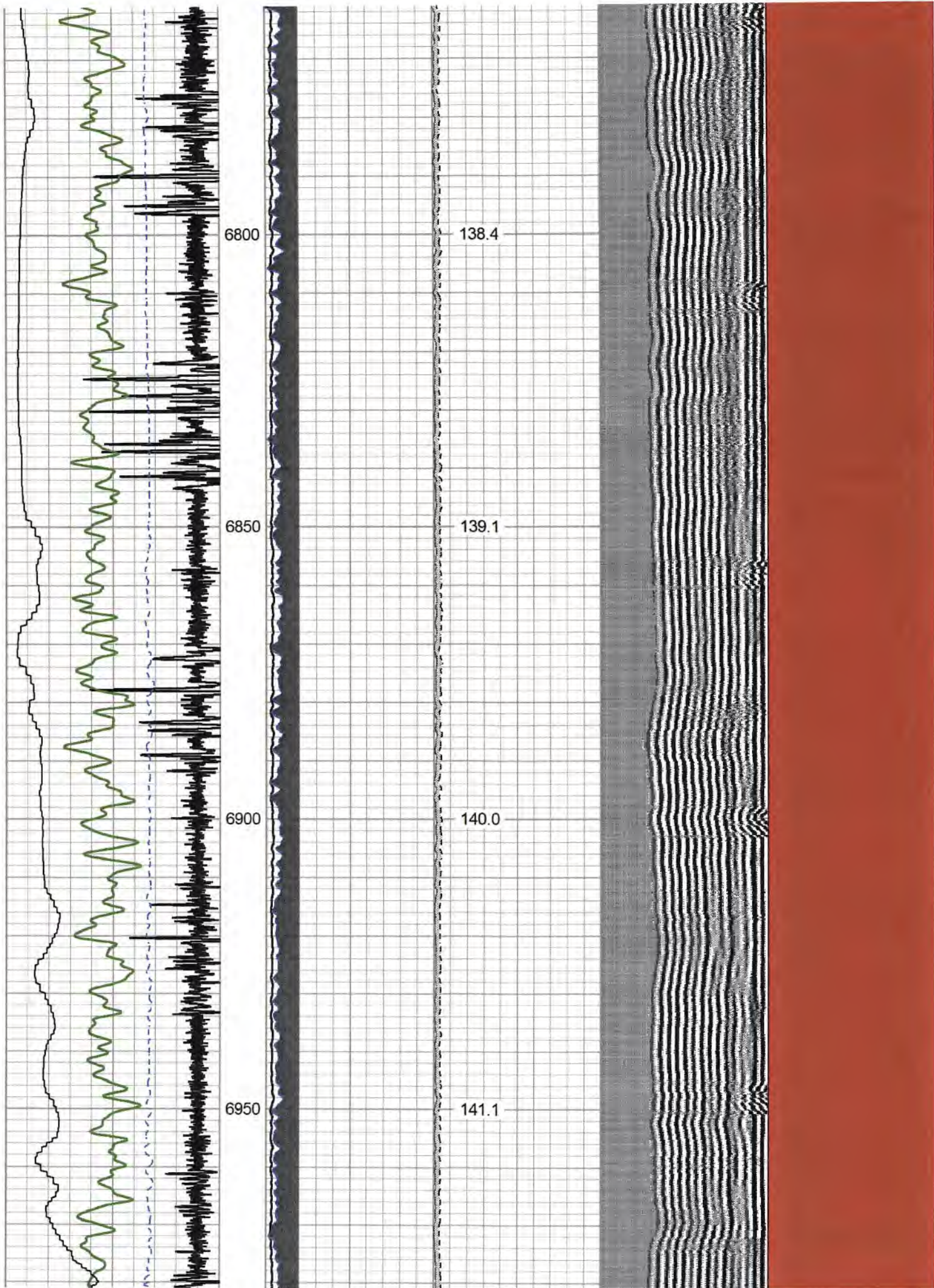


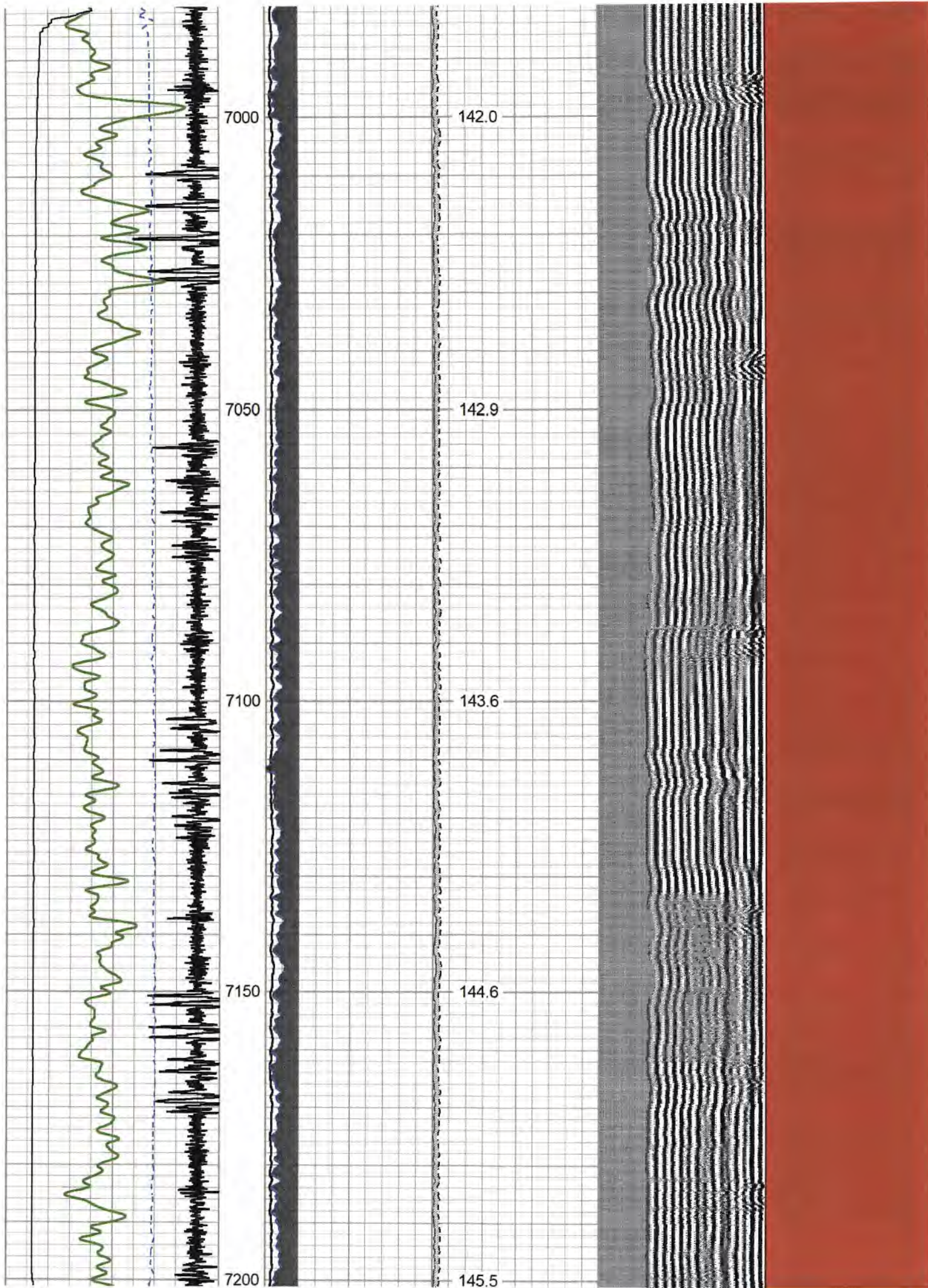


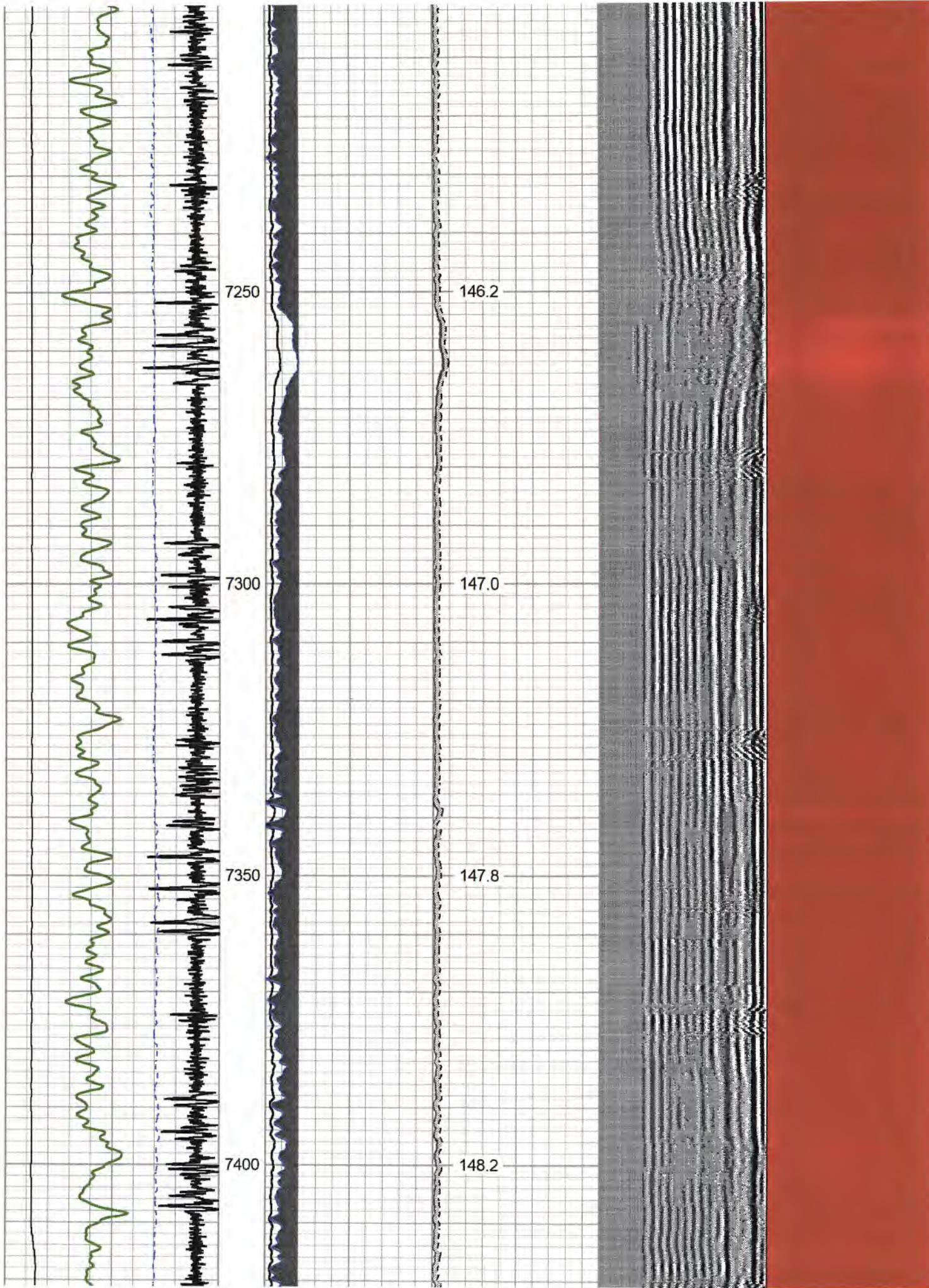


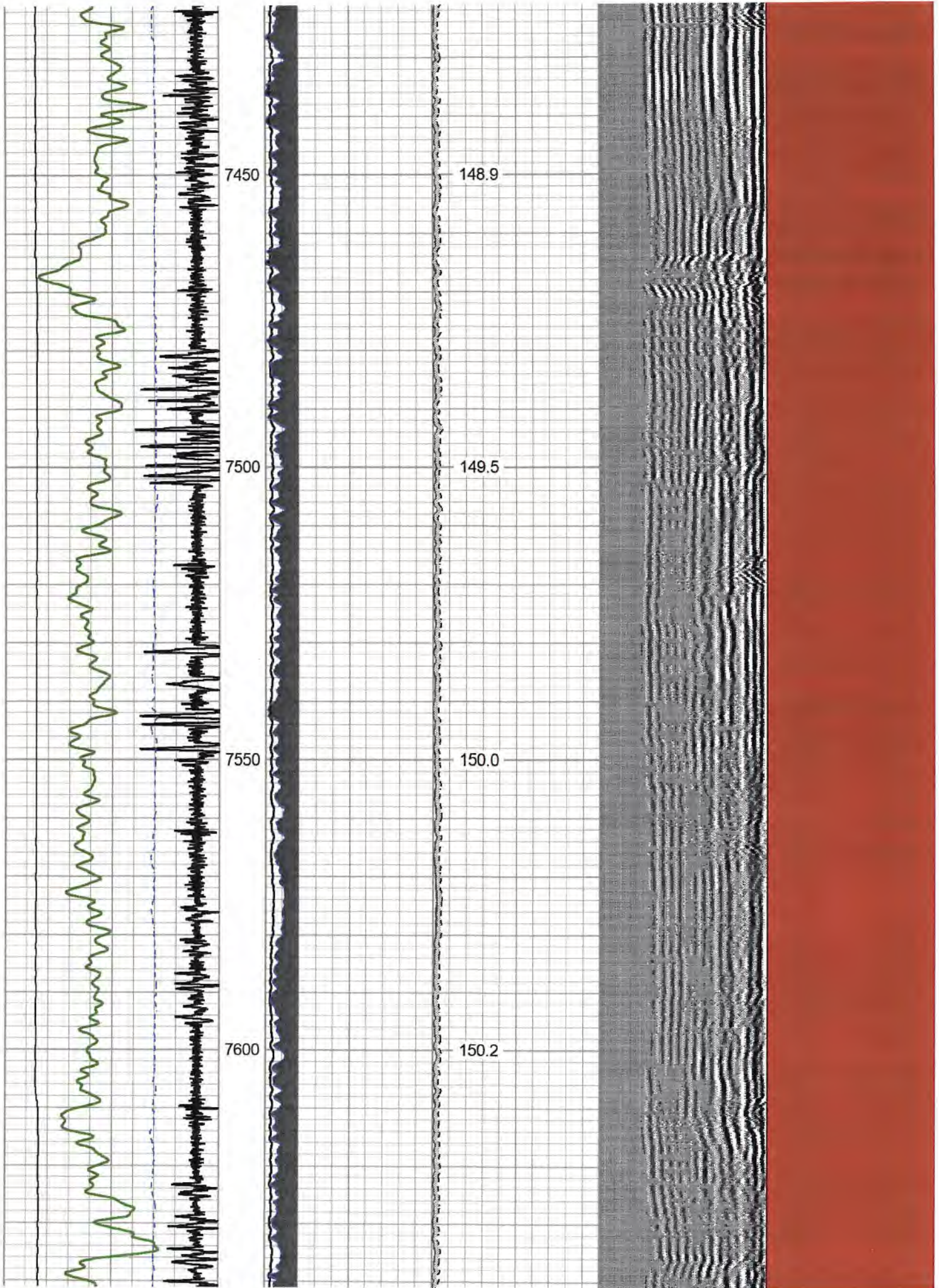


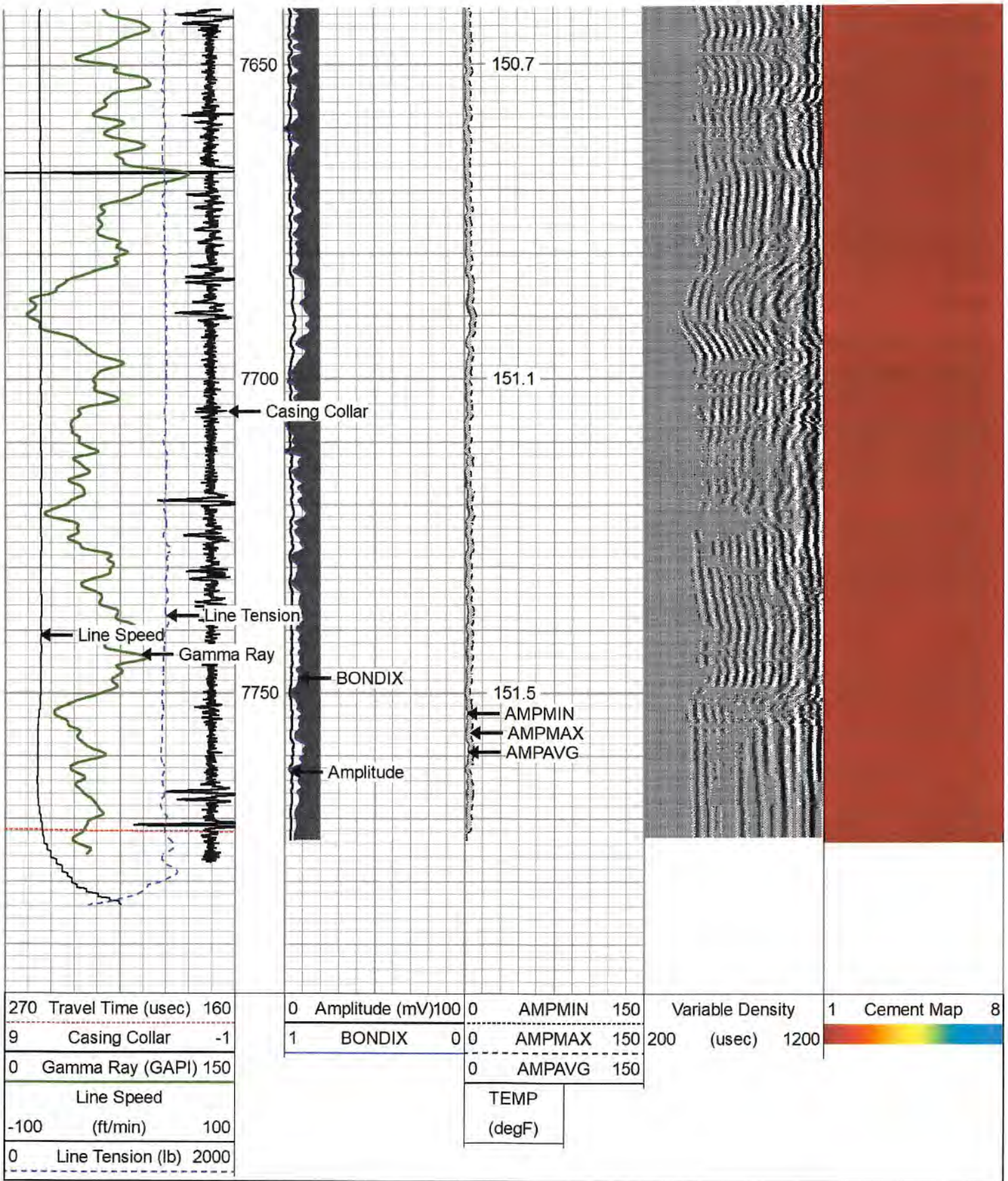










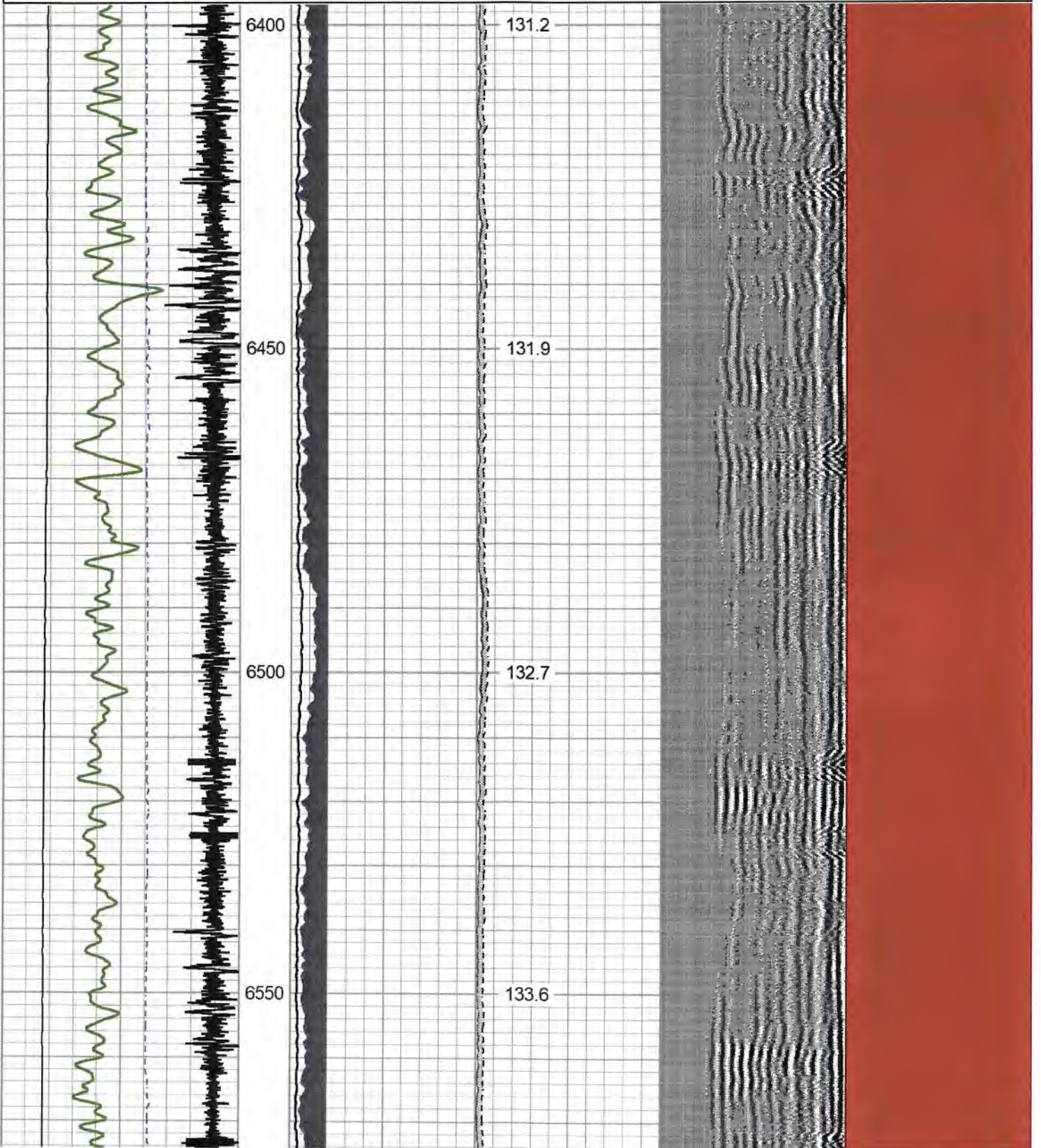


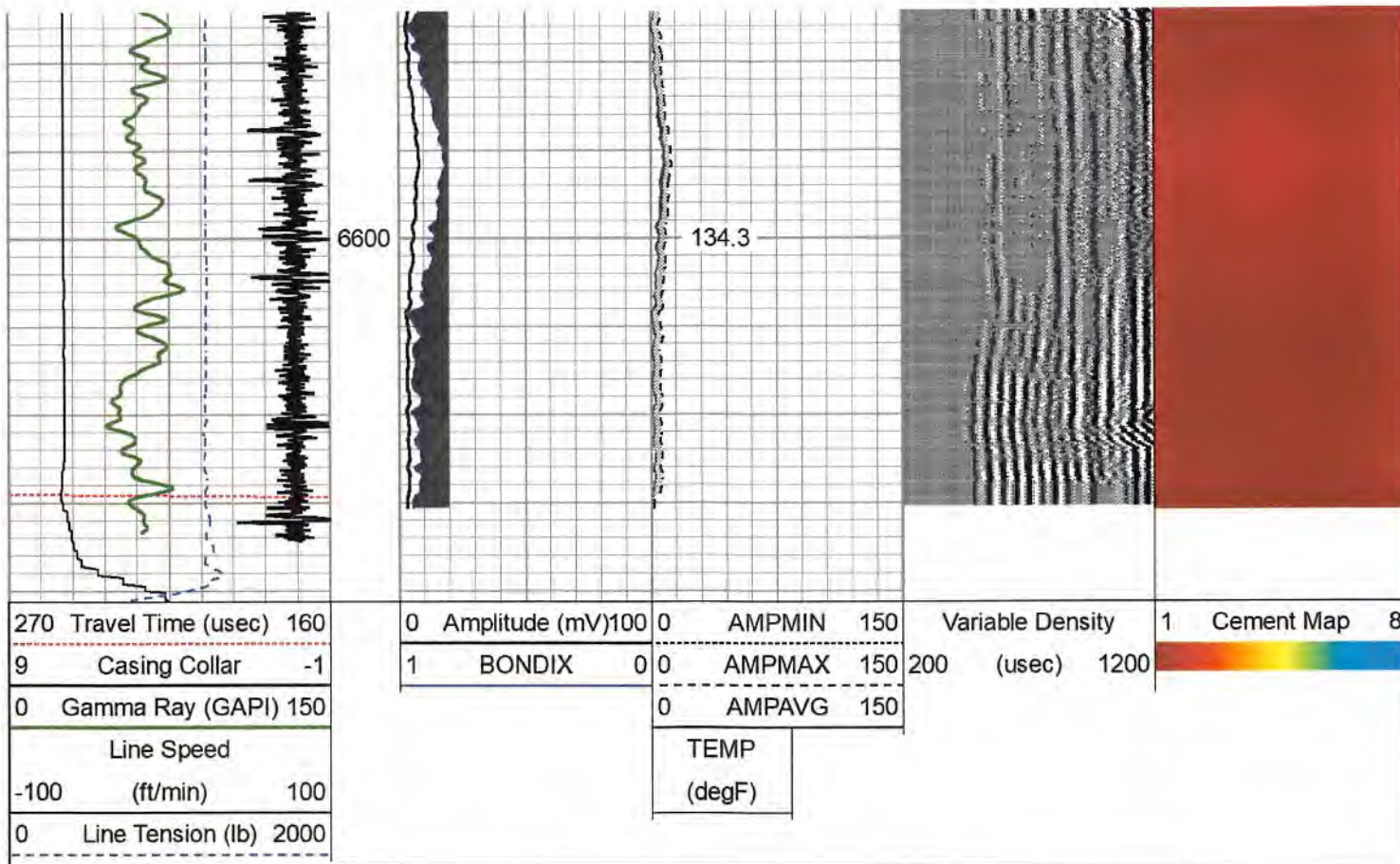
# Repeat Pass 1,500 PSI

Database File antero\_lemon\_2h\_rcbl\_08\_jan\_2021.db  
 Dataset Pathname rabbit\_ears/Lemon2H/run1/pass7

Presentation Format rcbI-bond index for antero 1020  
 Dataset Creation Fri Jan 08 11:13:04 2021  
 Charted by Depth in Feet scaled 1:240

270	Travel Time (usec)	160	0	Amplitude (mV)	100	0	AMPMIN	150	Variable Density	1	Cement Map	8
9	Casing Collar	-1	1	BONDIX	0	0	AMPMAX	150	200 (usec)	1200		
0	Gamma Ray (GAPI)	150	0			0	AMPAVG	150				
Line Speed			TEMP									
-100	(ft/min)	100	(degF)									
0	Line Tension (lb)	2000										





**Log Variables** DatabaseC:\ProgramData\Warrior\Data\antero\_lemon\_2h\_rcbl\_08\_jan\_2021.db  
 Dataset rabbit\_ears/Lemon2H/run1/pass9/\_vars\_

**Top - Bottom**

BHTEMP_Src	BOREID	BOTTEMP	CASEOD	CASETHCK	CASEWGHT	MAXAMPL	MINAMPL
TEMP	7.875	100	5.5	0.361	20	71.9	2.2
MINATTN	PERFS	PPT	SRFTEMP	TDEPTH			
10.8	No	261	36	7776			

**Variable Description**

BHTEMP_Src : BHTEMP Input Source Selector	MINAMPL : Minimum Amplitude
BOREID : Borehole I.D.	MINATTN : Minimum Attenuation
BOTTEMP : Bottom Hole Temperature	PERFS : Perforation Flag
CASEOD : Casing O.D.	PPT : Predicted Pipe Time
CASETHCK : Casing Thickness	SRFTEMP : Surface Temperature
CASEWGHT : Casing Weight	TDEPTH : Total Depth
MAXAMPL : Maximum Amplitude	

**Calibration Report**

Database File	antero_lemon_2h_rcbl_08_jan_2021.db
Dataset Pathname	rabbit_ears/Lemon2H/run1/pass9
Dataset Creation	Fri Jan 08 11:24:53 2021

**Gamma Ray Calibration Report**

Serial Number:	FW1211-86
Tool Model:	Probe
Performed:	Mon Nov 30 11:58:15 2020

Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.5000	GAPI/cps

**Segmented Cement Bond Log Calibration Report**

Serial Number:	FW1312-32	
Tool Model:	Probe275T	
Calibration Casing Diameter:	5.500	in
Calibration Depth:	115.425	ft

Master Calibration, performed Fri Jan 08 10:39:23 2021:


	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	-0.015	0.996	2.200	71.921	68.939	3.242
CAL	0.081	0.845				
5'	-0.015	0.891	2.200	71.921	76.918	3.359
SUM						
S1	-0.015	1.036	0.000	100.000	95.160	1.415
S2	-0.014	1.056	0.000	100.000	93.488	1.266
S3	-0.011	1.052	0.000	100.000	94.048	1.050
S4	-0.012	1.015	0.000	100.000	97.390	1.164
S5	-0.013	0.991	0.000	100.000	99.647	1.249
S6	-0.013	0.962	0.000	100.000	102.594	1.297
S7	-0.015	0.941	0.000	100.000	104.564	1.570
S8	-0.013	0.971	0.000	100.000	101.663	1.335

Internal Reference Calibration, performed Thu Sep 27 16:01:58 2018:

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.081	0.845	1.000	0.000

Air Zero Calibration, performed Fri Jan 08 09:44:33 2021:

	Raw (v)		Calibrated (v)		Results	
	Zero		Zero		Offset	
3'	0.000		0.000			0.000
5'	0.000		0.000			0.000
SUM						
S1	0.000		0.000			0.000
S2	0.000		0.000			0.000
S3	0.000		0.000			0.000
S4	0.000		0.000			0.000
S5	0.000		0.000			0.000
S6	0.000		0.000			0.000
S7	0.000		0.000			0.000
S8	0.000		0.000			0.000

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
			CHD-Titan Titan 1 7/16" GO Cablehead	1.00	1.44	5.00



HeadVolt	16.99					
Temp	14.14		CENT-Overbody Antelope (SP-919-0233)	1.67	4.88	5.00
WVFS8	11.91		RBT-Probe275T (FW1312-32) Probe 2.75" Radial with Integral Temperature Sub	9.39	2.75	90.00
WVFS7	11.91					
WVFS6	11.91					
WVFS5	11.91					
WVFS4	11.91					
WVFS3	11.91					
WVFS2	11.91					
WVFS1	11.91					
WVF3FT	11.91					
WVF5FT	10.91					
WVFCAL HEADVOLT	7.66 7.66					
CCL	6.75					
GR	5.42		CENT-Overbody Antelope (SP-919-0233) GR-Probe (FW1211-86) Probe 2 3/4" Logging Gamma Ray	1.67 4.78	4.88 2.75	5.00 57.00
		CENT-Probe275 2.75" Centralizer	2.88	2.75	20.00	

Dataset: antero\_lemon\_2h\_rcbl\_08\_jan\_2021.db: rabbit\_ears/Lemon2H/run1/pass9  
 Total length: 18.05 ft  
 Total weight: 182.00 lb  
 O.D.: 4.88 in



Nine

Well Margery Lemon 2H  
Field RABBIT EARS  
County TYLER  
State WEST VIRGINIA

Country USA